

SEQUENCE LISTING

<110> Institut Pasteur
Centre National de la Recherche Scientifique -CNRS
Génoscope

<120> Gene bank of the cyanophage S-2L and functional analysis

<130> D19791

<160> 527

<170> PatentIn Ver. 2.1

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<211> 45570

<212> ADN

<213> Cyanophage S-2L

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<210> 2

<211> 169

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 9 right: 515 frame: 1 size(aa): 169

<400> 2

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Ser Glu Gly Pro Gly Arg His Gly Asp Val Gln Gly Gly Arg His Arg
1          5          10          15
Met Ala Leu Arg Pro Gly Asp Leu Val Lys Val Met Asp Pro Asp Lys
          20          25          30
Gly Gly Val Arg Phe Gly Gly Arg Val Val Ala Gln Asp Gly Asp Thr
          35          40          45
Ile Thr Leu Asp Ala Ala Pro Pro Thr Pro Leu Ala Gly Arg Gly Gln
          50          55          60
Pro Ala Pro Gly Gly Thr Ala His Gly Arg Ala Gly His Pro Glu Ala
65          70          75          80
Asp Arg Gly Pro Ala Pro Arg Arg His Arg Asp Glu Ala Asp Arg Gly
          85          90          95
Pro Ala Pro Gly Ala Pro Gly Gly Gly Ala Ala Glu Gly Arg Val Val
          100          105          110
Gly Pro Gly Arg Gly Leu Pro Asp Arg Arg Ala Val Gly Pro Leu Pro
          115          120          125
Thr Pro Ala Gly Ala Pro Arg Val Gly Asp Glu Ala Val Arg Trp Gly
          130          135          140
Val Gly Pro Gly Arg Ser Arg His Gln Gly Gln Gln Glu Gln Gln Glu
145          150          155          160
Pro His Ala Ala Ser Cys Met Ala Ala
          165

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<210> 3

<211> 261

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 9 right: 791 frame: -1 size(aa): 261

<400> 3

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Leu Ser Arg Trp Pro Ser Thr Arg Gly Arg Arg Ser Ser Pro Ala Ala
1          5          10          15
Ser Ser Ile Trp Ala Ser Pro Gly Trp Ile Trp Cys Trp Gly Thr Ala
          20          25          30
Ala Gly Ser Pro Pro Arg Pro Arg Gly Cys Pro Ser Glu Arg Arg Pro
          35          40          45
Leu Asp Pro Ala Arg Arg Pro Arg Ala Ala His Ala Leu Arg Leu Leu
          50          55          60

```

Gly Asp Arg Gly Arg Pro Pro Arg Arg Arg Pro Leu His Pro Gly Ala
 65 70 75 80
 Asp Pro Pro Asp Arg Arg Pro Pro Pro Gly Asp Leu Arg Arg His Thr
 85 90 95
 Gly Gly Arg Met Arg Leu Leu Leu Leu Leu Leu Ala Leu Val Pro Ala
 100 105 110
 Ala Ala Trp Ala Asp Ala Pro Pro Asp Gly Phe Ile Pro Asp Pro Gly
 115 120 125
 Arg Pro Gly Trp Arg Gly Gln Arg Pro Asp Ser Pro Ala Val Trp Gln
 130 135 140
 Thr Pro Pro Arg Ala Tyr Asp Pro Pro Leu Gly Gly Thr Pro Ser Gly
 145 150 155 160
 Gly Pro Trp Arg Gly Ala Pro Val Gly Phe Ile Pro Val Pro Ser Trp
 165 170 175
 Arg Gly Ala Pro Val Gly Phe Arg Met Thr Gly Pro Ser Val Gly Gly
 180 185 190
 Ala Pro Arg Gly Trp Leu Pro Pro Ala Gly Glu Gly Cys Arg Gly Cys
 195 200 205
 Arg Val Glu Arg Asp Arg Val Ala Val Leu Gly Asn His Pro Thr Ala
 210 215 220
 Glu Ala Asp Pro Ala Leu Val Arg Val His Asp Leu Asp Lys Ile Pro
 225 230 235 240
 Arg Ala Gln Gly His Pro Met Ala Pro Thr Leu Asn Val Thr Val Ser
 245 250 255
 Ser Arg Thr Leu Arg
 260

<210> 4

<211> 111

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 10 right: 342 frame: 2 size(aa): 111

<400> 4

Arg Arg Val Leu Asp Asp Thr Val Thr Phe Lys Val Gly Ala Ile Gly
 1 5 10 15
 Trp Pro Cys Ala Leu Gly Ile Leu Ser Arg Ser Trp Thr Arg Thr Arg
 20 25 30
 Ala Gly Ser Ala Ser Ala Val Gly Trp Leu Pro Arg Thr Ala Thr Arg
 35 40 45

Ser Arg Ser Thr Arg His Pro Arg His Pro Ser Pro Ala Gly Gly Ser
50 55 60
Gln Pro Arg Gly Ala Pro Pro Thr Asp Gly Pro Val Ile Arg Lys Pro
65 70 75 80
Thr Gly Ala Pro Arg His Asp Gly Thr Gly Met Lys Pro Thr Gly Ala
85 90 95
Pro Arg Gln Gly Pro Pro Glu Gly Val Pro Pro Arg Gly Gly Ser
100 105 110

<210> 5
<211> 82
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 35 right: 280 frame: 3 size(aa): 82

<400> 5

Arg Ser Arg Trp Ala Pro Ser Asp Gly Pro Ala Pro Trp Gly Ser Cys
1 5 10 15
Gln Gly His Gly Pro Gly Gln Gly Arg Gly Pro Leu Arg Arg Ser Gly
20 25 30
Gly Cys Pro Gly Arg Arg His Asp His Ala Arg Arg Gly Thr Pro Asp
35 40 45
Thr Pro Arg Arg Pro Gly Ala Ala Ser Pro Gly Gly His Arg Pro Arg
50 55 60
Thr Gly Arg Ser Ser Gly Ser Arg Pro Gly Pro Arg Ala Thr Thr Ala
65 70 75 80
Pro Gly

<210> 6
<211> 65
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41 right: 235 frame: -3 size(aa): 65

<400> 6

Pro Ala Arg Pro Trp Ala Val Pro Pro Gly Ala Gly Cys Pro Arg Pro
1 5 10 15
Ala Arg Gly Val Gly Gly Ala Ala Ser Ser Val Ile Val Ser Pro Ser
20 25 30
Trp Ala Thr Thr Arg Pro Pro Lys Arg Thr Pro Pro Leu Ser Gly Ser

35

40

45

Met Thr Leu Thr Arg Ser Pro Gly Arg Arg Ala Ile Arg Trp Arg Pro
50 55 60

Pro
65

<210> 7

<211> 91

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 157 right: 429 frame: -2 size(aa): 91

<400> 7

Arg Leu His Pro Arg Pro Gly Ala Pro Arg Leu Ala Trp Ala Ala Ala
1 5 10 15

Arg Gln Pro Gly Gly Leu Ala Asp Pro Ala Gln Gly Leu Arg Pro Ala
20 25 30

Pro Arg Arg His Pro Leu Arg Gly Pro Leu Ala Arg Gly Pro Gly Arg
35 40 45

Leu His Pro Gly Ala Val Val Ala Arg Gly Pro Gly Arg Leu Pro Asp
50 55 60

Asp Arg Pro Val Arg Gly Arg Cys Pro Pro Gly Leu Ala Ala Pro Gly
65 70 75 80

Arg Arg Gly Val Ser Gly Val Pro Arg Arg Ala
85 90

<210> 8

<211> 84

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 239 right: 490 frame: -3 size(aa): 84

<400> 8

Gly Ser Cys Cys Ser Cys Trp Pro Trp Cys Arg Leu Arg Pro Gly Pro
1 5 10 15

Thr Pro His Leu Thr Ala Ser Ser Pro Thr Arg Gly Ala Pro Ala Gly
20 25 30

Val Gly Ser Gly Pro Thr Ala Arg Arg Ser Gly Arg Pro Arg Pro Gly
35 40 45

Pro Thr Thr Arg Pro Ser Ala Ala Pro Pro Pro Gly Ala Pro Gly Ala
50 55 60

Gly Pro Arg Ser Ala Ser Ser Arg Cys Arg Arg Gly Ala Gly Pro Arg
65 70 75 80

Ser Ala Ser Gly

<210> 9

<211> 224

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 346 right: 1017 frame: 2 size(aa): 224

<400> 9

Ala Leu Gly Gly Val Cys Gln Thr Ala Gly Leu Ser Gly Arg Cys Pro
1 5 10 15

Arg Gln Pro Gly Arg Pro Gly Ser Gly Met Lys Pro Ser Gly Gly Ala
20 25 30

Ser Ala Gln Ala Ala Ala Gly Thr Arg Ala Ser Arg Ser Ser Arg Ser
35 40 45

Leu Met Arg Pro Pro Val Trp Arg Arg Arg Ser Pro Gly Gly Gly Arg
50 55 60

Arg Ser Gly Gly Ser Ala Pro Gly Cys Arg Gly Arg Arg Arg Gly Gly
65 70 75 80

Arg Pro Arg Ser Pro Ser Arg Arg Arg Ala Cys Ala Ala Arg Gly Leu
85 90 95

Arg Ala Gly Ser Arg Gly Arg Arg Ser Leu Gly His Pro Leu Gly Arg
100 105 110

Gly Gly Leu Pro Ala Ala Val Pro Gln His Gln Ile His Pro Gly Asp
115 120 125

Ala Gln Ile Glu Leu Ala Ala Gly Glu Asp Leu Leu Pro Leu Val Leu
130 135 140

Gly His Leu Asp Ser Gln Pro Gly His Ala Met Leu Glu Asp Arg Val
145 150 155 160

Asp Val Arg Gly Val Leu Val Glu Ile Pro Val Glu Leu Gln Glu Val
165 170 175

Pro Ala Pro Phe Val Ser Glu Gly Val Asp Gly Pro Pro Arg Thr Gly
180 185 190

Val Gly Ser Ser Val Arg Ser Gly Arg Gly His Gly Asp Arg Thr Ser
195 200 205

Gly Arg Thr Gly Pro Arg Arg Gln Gly Pro Val Pro Arg Pro Glu Gly
210 215 220

<210> 10
<211> 158
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 425 right: 898 frame: 3 size(aa): 158

<400> 10

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Ala	Gly	Ala	Ala	Gly	Ala	Ser	Cys	Gly	Leu	Leu	Tyr	Gly	Gly	Val	Asp		
			20					25					30				
Leu	Pro	Glu	Ala	Val	Ala	Gly	Leu	Ala	Asp	Leu	Leu	Arg	Gly	Ala	Gly		
			35				40					45					
Asp	Asp	Val	Glu	Ala	Asp	Gly	Pro	Gly	Leu	Arg	Ala	Asp	Val	Gly	His		
	50					55					60						
Val	Arg	Leu	Glu	Ala	Phe	Gly	Pro	Gly	Arg	Gly	Gly	Val	Val	His	Trp		
65					70				75						80		
Gly	Thr	Pro	Trp	Val	Glu	Val	Gly	Ser	Gln	Pro	Pro	Cys	Pro	Ser	Thr		
			85						90					95			
Arg	Ser	Thr	Pro	Ala	Met	Pro	Arg	Ser	Ser	Leu	Arg	Leu	Ala	Arg	Ile		
			100					105					110				
Ser	Phe	Leu	Leu	Cys	Trp	Ala	Thr	Ser	Ile	Val	Ser	Gln	Ala	Met	Pro		
		115					120					125					
Cys	Trp	Arg	Thr	Glu	Ser	Met	Cys	Gly	Val	Tyr	Ser	Leu	Lys	Ser	Arg		
	130					135					140						
Leu	Ser	Ser	Arg	Arg	Tyr	Gln	Pro	Arg	Leu	Ser	Val	Arg	Ala				
145					150				155								

<210> 11
<211> 75
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 433 right: 657 frame: -2 size(aa): 75

<400> 11

Thr	Thr	Pro	Pro	Arg	Pro	Gly	Pro	Lys	Ala	Ser	Ser	Arg	Thr	Cys	Pro		
1				5					10					15			
Thr	Ser	Ala	Arg	Arg	Pro	Gly	Pro	Ser	Ala	Ser	Thr	Ser	Ser	Pro	Ala		
			20					25					30				
Pro	Arg	Ser	Arg	Ser	Ala	Arg	Pro	Ala	Thr	Ala	Ser	Gly	Arg	Ser	Thr		

35 40 45
 Pro Pro Tyr Arg Arg Pro His Glu Ala Pro Ala Ala Pro Ala Gly Pro
 50 55 60
 Gly Ala Gly Cys Gly Leu Gly Arg Arg Pro Thr
 65 70 75

<210> 12
 <211> 131
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 494 right: 886 frame: -3 size(aa): 131

<400> 12
 Gln Thr Gly Leu Val Pro Pro Gly Ala Gln Pro Gly Phe Gln Arg Val
 1 5 10 15
 His Pro Ala His Arg Leu Gly Pro Pro Thr Trp His Gly Leu Ala Asp
 20 25 30
 Tyr Arg Gly Gly Pro Ala Gln Glu Gly Asp Pro Arg Gln Pro Gln
 35 40 45
 Ala Arg Ser Gly His Arg Arg Gly Gly Ser Gly Ala Gly Ala Arg Arg
 50 55 60
 Leu Gly Ala His Leu Asp Pro Gly Gly Ala Pro Val Asn Asp Ala Pro
 65 70 75 80
 Ser Thr Arg Pro Glu Gly Leu Glu Pro His Met Pro Tyr Val Cys Ser
 85 90 95
 Glu Thr Gly Ala Val Arg Leu Asp Val Val Pro Cys Thr Pro Glu Gln
 100 105 110
 Ile Arg Gln Thr Gly Asp Arg Leu Arg Glu Ile Tyr Ala Ala Ile Gln
 115 120 125
 Glu Ala Ala
 130

<210> 13
 <211> 59
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 612 right: 788 frame: 1 size(aa): 59

<400> 13
 Gly Met Cys Gly Ser Arg Pro Ser Gly Arg Val Glu Gly Ala Ser Phe
 1 5 10 15

Thr Gly Ala Pro Pro Gly Ser Arg Trp Ala Pro Ser Arg Arg Ala Pro
20 25 30

Ala Pro Asp Pro Pro Arg Arg Cys Pro Asp Arg Ala Cys Gly Trp Arg
35 40 45

Gly Ser Pro Ser Ser Cys Ala Gly Pro Pro Arg
50 55

<210> 14

<211> 134

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 661 right: 1062 frame: -2 size(aa): 134

<400> 14

Ser Ala Trp Cys Trp Gly Ser His Pro Ala Ala His Ser Arg Leu Pro
1 5 10 15

Leu Arg Pro Arg His Arg Pro Leu Thr Pro Arg Pro Ser Ser Ser Thr
20 25 30

Arg Pro Ile Pro Met Ser Ser Pro Thr Ser Asn Ala Ala Thr Asp Ser
35 40 45

Arg Pro Arg Arg Thr Val Tyr Ala Leu Thr Asp Lys Arg Gly Trp Tyr
50 55 60

Leu Leu Glu Leu Asn Arg Asp Phe Asn Glu Tyr Thr Pro His Ile Asp
65 70 75 80

Ser Val Leu Gln His Gly Met Ala Trp Leu Thr Ile Glu Val Ala Gln
85 90 95

His Lys Arg Lys Glu Ile Leu Ala Ser Arg Lys Leu Asp Leu Gly Ile
100 105 110

Ala Gly Val Asp Leu Val Leu Gly His Gly Gly Trp Glu Pro Thr Ser
115 120 125

Thr Gln Gly Val Pro Gln
130

<210> 15

<211> 65

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 795 right: 989 frame: -1 size(aa): 65

<400> 15

Arg Arg Gly Pro Val Arg Pro Leu Val Leu Ser Pro Cys Pro Arg Pro
1 5 10 15

Leu Arg Thr Leu Leu Pro Thr Pro Val Leu Gly Gly Pro Ser Thr Pro
20 25 30

Ser Leu Thr Asn Gly Ala Gly Thr Ser Trp Ser Ser Thr Gly Ile Ser
35 40 45

Thr Ser Thr Pro Arg Thr Ser Thr Arg Ser Ser Asn Met Ala Trp Pro
50 55 60

Gly
65

<210> 16

<211> 80

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 890 right: 1129 frame: -3 size(aa): 80

<400> 16

Ala Pro Leu Phe Ser Gln Gln Ser Ser Pro Ser Leu Gln Pro Ser Met
1 5 10 15

Leu Leu Leu Leu Arg Leu Ile Arg Leu Val Leu Gly Val Pro Pro Arg
20 25 30

Arg Pro Gln Pro Pro Thr Pro Pro Ala Ser Ala Pro Ala Pro Asp Ala
35 40 45

Glu Ala Gln Phe Val His Ser Ser Tyr Pro His Val Leu Ala His Phe
50 55 60

Glu Arg Cys Tyr Arg Leu Pro Ser Ser Glu Asp Arg Leu Arg Pro His
65 70 75 80

<210> 17

<211> 64

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 902 right: 1093 frame: 3 size(aa): 64

<400> 17

Thr Val Leu Arg Gly Arg Glu Ser Val Ala Ala Phe Glu Val Gly Glu
1 5 10 15

Asp Met Gly Ile Gly Arg Val Asp Glu Leu Gly Leu Gly Val Arg Gly
20 25 30

Arg Cys Arg Gly Arg Arg Gly Arg Arg Leu Trp Ala Ala Gly Trp Asp

35 40 45
Pro Gln His Gln Ala Asp Gln Ala Lys Glu Gln Gln His Arg Arg Leu
50 55 60

<210> 18

<211> 50

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 963 right: 1112 frame: 1 size(aa): 50

<400> 18

Asp Glu Trp Thr Asn Trp Ala Ser Ala Ser Gly Ala Gly Ala Glu Ala
1 5 10 15

Gly Gly Val Gly Gly Cys Gly Arg Arg Gly Gly Thr Pro Ser Thr Lys
20 25 30

Arg Ile Arg Arg Arg Ser Ser Asn Ile Asp Gly Cys Lys Asp Gly Glu
35 40 45

Asp Cys
50

<210> 19

<211> 104

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 993 right: 1304 frame: -1 size(aa): 104

<400> 19

Leu Gln Ala Pro Asp Arg Gly Cys Gly Gln Ala Met Gly Leu Leu Pro
1 5 10 15

Pro Pro Pro Gly Gln Ala Pro Asp Leu Glu Ala Pro Gln Arg Arg His
20 25 30

Arg Arg His Pro Gly Leu Val Cys Gln Leu Ala Arg Gly Pro Gln Arg
35 40 45

Arg Ile Pro His Ala Gln Ser Arg Leu Met Ser Ser Pro Ile Leu Ser
50 55 60

Ala Val Leu Ala Val Leu Thr Ala Val Tyr Val Ala Ala Pro Ser Pro
65 70 75 80

Asp Pro Leu Gly Ala Gly Gly Pro Thr Pro Pro Pro Thr Ala Ala Tyr
85 90 95

Pro Ser Gly Leu Gly Thr Gly Pro
100

<210> 20
<211> 56
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1066 right: 1233 frame: -2 size(aa): 56

<400> 20

Ser Gly Ser Thr Pro Thr Ala Pro Pro Ser Ser Pro Arg Pro Arg Leu
1 5 10 15
Pro Thr Gly Thr Trp Ser Pro Thr Pro Asn Pro Ala Cys Ala Glu Pro
20 25 30
Pro His Glu Leu Pro Tyr Ser Leu Ser Ser Pro Arg Arg Pro Tyr Ser
35 40 45
Arg Leu Cys Cys Cys Ser Phe Ala
50 55

<210> 21
<211> 196
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1133 right: 1720 frame: -3 size(aa): 196

<400> 21

Ser His Val Arg Thr Asp Pro Pro Arg Arg Arg Arg Arg Leu Arg Asp
1 5 10 15
Leu Arg Trp Leu Arg Pro Gly Asp Pro Arg Gln Arg Pro Pro Leu Ala
20 25 30
His Gly Arg Leu Pro Gly Ala Gly Arg Arg Arg Glu Pro Pro Ala Val
35 40 45
Pro Arg Arg Pro Arg Pro Gly Gly Ala Thr Ala Ser Arg Gly His Pro
50 55 60
Ala Arg Pro Gly Gly Ala His Pro Leu Pro Pro Leu Thr Pro Cys Pro
65 70 75 80
Asp Ser Ala Ser Ser Thr Arg Ser Pro Gly Cys Leu Ser Ala Pro Arg
85 90 95
Ser Ser Thr Ile Arg Pro Ala Ala Trp Ser Ala Ala Arg Asp Ala Ser
100 105 110
Ala Pro Ser Ser Ala Ala Cys Ala Ser Gly Trp Arg Ser Pro Gln Pro
115 120 125

Lys Pro Gly Arg Thr Cys Pro Val Ser Gly Ser Tyr Arg Arg Gln Ile
130 135 140

Glu Ala Ala Ala Lys Arg Trp Gly Phe Tyr Leu His Arg Gln Gly Lys
145 150 155 160

His Leu Ile Trp Lys His Pro Asn Gly Ala Thr Val Val Thr Pro Ala
165 170 175

Ser Ser Ala Asn Trp His Val Val Pro Asn Ala Glu Ser Arg Met Arg
180 185 190

Arg Ala Ala Ser
195

<210> 22

<211> 89

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 1136 right: 1402 frame: 3 size(aa): 89

<400> 22

Gly Gly Ser Ala His Ala Gly Phe Gly Val Gly Asp His Val Pro Val
1 5 10 15

Gly Arg Arg Gly Arg Gly Asp Asp Gly Gly Ala Val Gly Val Leu Pro
20 25 30

Asp Gln Val Leu Ala Leu Ala Val Glu Val Glu Ala Pro Ser Leu Gly
35 40 45

Arg Ser Leu Asp Leu Ala Pro Val Ala Thr Gly His Gly Thr Gly Pro
50 55 60

Pro Gly Leu Arg Leu Gly Ala Pro Pro Ala Arg Arg Ala Cys Arg Arg
65 70 75 80

Arg Gly Arg Arg Gly Val Pro Arg Ser
85

<210> 23

<211> 73

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 1204 right: 1422 frame: 2 size(aa): 73

<400> 23

Arg Arg Trp Arg Arg Trp Gly Ala Ser Arg Ser Gly Ala Cys Pro Gly
1 5 10 15

Gly Gly Gly Arg Ser Pro Ile Ala Trp Pro Gln Pro Arg Ser Gly Ala

20 25 30

Cys Ser Tyr Arg Thr Arg Asp Arg Ser Ser Arg Ala Ser Ala Gly Gly
35 40 45

Ser Ser Ser Gln Thr Arg Met Pro Pro Thr Arg Ala Gln Arg Arg Pro
50 55 60

Ser Gln Leu Thr Thr Arg Pro Ala Gly
65 70

<210> 24
<211> 85
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1237 right: 1491 frame: -2 size(aa): 85

<400> 24

His His Ala Gln Thr Pro His Pro Ala Pro Ala Pro Arg Asp Ala Ser
1 5 10 15

Gln Pro Pro Gly Pro Gln Leu Ser Gly Arg Pro Arg Gly Gln Leu Arg
20 25 30

Gly Thr Pro Leu Arg Pro Arg Arg Arg His Ala Arg Leu Ala Gly Gly
35 40 45

Ala Pro Ser Arg Ser Pro Gly Gly Pro Val Pro Cys Pro Val Ala Thr
50 55 60

Gly Ala Arg Ser Arg Leu Arg Pro Ser Asp Gly Ala Ser Thr Ser Thr
65 70 75 80

Ala Arg Ala Ser Thr
85

<210> 25
<211> 112
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1305 right: 1640 frame: 1 size(aa): 112

<400> 25

Leu Pro Asp Thr Gly Gln Val Leu Pro Gly Phe Gly Trp Gly Leu Leu
1 5 10 15

Gln Pro Asp Ala His Ala Ala Asp Glu Gly Ala Glu Ala Ser Leu Ala
20 25 30

Ala Asp His Ala Ala Gly Arg Ile Val Glu Asp Leu Gly Ala Glu Arg
35 40 45

His Pro Gly Glu Arg Val Leu Asp Ala Glu Ser Gly His Gly Val Arg
 50 55 60
 Gly Gly Arg Gly Trp Ala Pro Pro Gly Arg Ala Gly Trp Pro Leu Glu
 65 70 75 80
 Ala Val Ala Pro Pro Gly Arg Gly Arg Arg Gly Thr Ala Gly Gly Ser
 85 90 95
 Arg Arg Arg Pro Ala Pro Gly Arg Arg Pro Trp Ala Ser Gly Gly Arg
 100 105 110

<210> 26

<211> 177

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 1308 right: 1838 frame: -1 size(aa): 177

<400> 26

Arg Ala Gly Arg Leu His Arg Leu Pro Ala Pro Ala Val Pro Gly Asp
 1 5 10 15
 Gly Gln Pro Arg Leu His Pro Gln Gly His Leu Arg His Pro Ala Pro
 20 25 30
 Asp Leu Ser Arg Leu Pro Leu Ile Pro Cys Pro Asn Arg Pro Ala Thr
 35 40 45
 Ser Ala Thr Ala Ser Thr Arg Pro Ser Met Ala Thr Ala Trp Arg Ser
 50 55 60
 Ala Ser Thr Thr Thr Ala Arg Pro Trp Ser Pro Thr Trp Ser Arg Ala
 65 70 75 80
 Ser Ser Arg Thr Ser Ser Gly Ser Ser Thr Thr Thr Pro Arg Trp Ser
 85 90 95
 Asp Ser Phe Lys Arg Pro Pro Gly Ser Thr Trp Trp Ser Pro Pro Pro
 100 105 110
 Pro Pro Ser Asp Thr Met Pro Arg Leu Arg Ile Gln His Pro Leu Pro
 115 120 125
 Gly Met Pro Leu Ser Pro Gln Val Leu Asn Tyr Pro Ala Gly Arg Val
 130 135 140
 Val Ser Cys Glu Gly Arg Leu Cys Ala Leu Val Gly Gly Met Arg Val
 145 150 155 160
 Trp Leu Glu Glu Pro Pro Ala Glu Ala Arg Glu Asp Leu Ser Arg Val
 165 170 175

Arg

<210> 27
 <211> 120
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 1426 right: 1785 frame: 2 size(aa): 120

<400> 27

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Leu Arg Thr Trp Gly Leu Arg Gly Ile Pro Gly Ser Gly Cys Trp Met
1           5           10           15

Arg Ser Leu Gly Met Val Ser Glu Gly Gly Gly Gly Gly Leu His Gln
          20           25           30

Val Glu Pro Gly Gly Leu Leu Lys Leu Ser Leu His Leu Gly Val Val
          35           40           45

Val Glu Glu Pro Leu Glu Val Arg Asp Asp Ala Arg Leu Gln Val Gly
          50           55           60

Asp His Gly Arg Ala Val Val Val Asp Ala Asp Leu Gln Ala Val Ala
65           70           75           80

Ile Glu Gly Arg Val Asp Ala Val Ala Asp Val Ala Gly Leu Phe Gly
          85           90           95

His Gly Ile Asn Gly Lys Arg Glu Arg Ser Gly Ala Gly Cys Arg Arg
          100          105          110

Cys Pro Trp Gly Trp Ser Arg Gly
          115          120

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<210> 28
 <211> 82
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 1495 right: 1740 frame: -2 size(aa): 82

<400> 28

```

Ser Leu Ser Leu Ala Val Asp Pro Met Ser Glu Gln Thr Arg His Val
1           5           10           15

Gly Asp Gly Val Tyr Ala Thr Phe Asp Gly Tyr Gly Leu Glu Ile Arg
          20           25           30

Val Asn Asp His Arg Ser Pro Met Val Ala Tyr Leu Glu Pro Gly Val
          35           40           45

Val Ala Asn Leu Gln Arg Phe Leu Asp Asp His Ala Gln Val Glu Arg
          50           55           60

Gln Leu Gln Glu Ala Thr Arg Leu Asp Leu Val Glu Pro Thr Pro Ser

```

65 70 75 80

Pro Leu

<210> 29
 <211> 57
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 1644 right: 1814 frame: 1 size(aa): 57

<400> 29

Arg Gly Ser Pro Gly Arg Ser His Arg Arg Ser Arg Arg Arg Arg Arg
 1 5 10 15
 Arg Arg Gly Gly Ser Val Arg Thr Trp Asp Gln Arg Gln Ala Arg Glu
 20 25 30
 Ile Arg Arg Trp Val Ser Glu Met Ser Leu Gly Val Glu Ser Gly Leu
 35 40 45
 Thr Ile Ser Arg Asn Ser Arg Cys Arg
 50 55

<210> 30
 <211> 146
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 1682 right: 2119 frame: 3 size(aa): 146

<400> 30

Thr Pro Ser Pro Thr Trp Arg Val Cys Ser Asp Met Gly Ser Thr Ala
 1 5 10 15
 Ser Glu Arg Asp Gln Ala Leu Gly Val Gly Asp Val Leu Gly Gly Gly
 20 25 30
 Val Gly Val Asp His Leu Gln Glu Gln Gln Val Pro Val Gly Gly Ala
 35 40 45
 Gly Ala Leu Pro Val Thr Thr Gly Thr Ala Ala Asp Ala Ile Leu Glu
 50 55 60
 Cys Ala Gln Leu Gly Val Glu Ala Lys His Ala Arg Ala Gly Leu Glu
 65 70 75 80
 Arg Gly Arg Leu Arg Cys Gly Gly Gly Glu Asp Asp Glu Ala Thr Ala
 85 90 95
 Glu Gly Gly Lys Glu Gly Val Glu Gly Ser His Gly Arg Gly Trp Arg
 100 105 110

Trp Thr Pro Gly Lys Gly Pro Leu Gly Ala Pro Glu Gly Phe Gly Arg
 115 120 125

Gly Arg Gly Gly Ser Ala Gln Ala Glu Gly Gln Leu Ala Gly Leu Gly
 130 135 140

Gln Gly
 145

<210> 31

<211> 118

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 1724 right: 2077 frame: -3 size(aa): 118

<400> 31

Pro Pro Pro Ala Thr Ala Glu Pro Leu Arg Gly Pro Gln Gly Pro Leu
 1 5 10 15

Ser Arg Cys Pro Pro Pro Pro Pro Met Arg Pro Leu Tyr Ala Phe
 20 25 30

Leu Ser Thr Phe Cys Gly Gly Leu Val Val Phe Ala Ala Thr Thr Ala
 35 40 45

Gln Ala Ser Pro Leu Glu Pro Ser Thr Gly Val Phe Arg Leu Tyr Ala
 50 55 60

Gln Leu Gly Ala Leu Glu Tyr Gly Val Arg Ser Arg Ala Arg Gly Asp
 65 70 75 80

Gly Gln Gly Ala Cys Thr Ala Tyr Arg His Leu Leu Phe Leu Glu Met
 85 90 95

Val Asn Pro Asp Ser Thr Pro Lys Asp Ile Ser Asp Thr Gln Arg Leu
 100 105 110

Ile Ser Leu Ala Cys Arg
 115

<210> 32

<211> 85

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 1744 right: 1998 frame: -2 size(aa): 85

<400> 32

Asp Pro Ser Thr Pro Ser Phe Pro Pro Ser Ala Val Ala Ser Ser Ser
 1 5 10 15

Ser Pro Pro Pro Gln Arg Arg Arg Pro Arg Ser Ser Pro Ala Arg Ala
20 25 30
Cys Phe Ala Ser Thr Pro Ser Trp Ala His Ser Ser Met Ala Ser Ala
35 40 45
Ala Val Pro Val Val Thr Gly Arg Ala Pro Ala Pro Pro Thr Gly Thr
50 55 60
Cys Cys Ser Trp Arg Trp Ser Thr Pro Thr Pro Pro Pro Arg Thr Ser
65 70 75 80
Pro Thr Pro Ser Ala
85

<210> 33
<211> 100
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1789 right: 2088 frame: 2 size(aa): 100

<400> 33

Pro Ser Pro Gly Thr Ala Gly Ala Gly Arg Arg Cys Arg Arg Pro Ala
1 5 10 15
Arg His His Gly His Gly Cys Gly Arg His Thr Arg Val Arg Pro Ala
20 25 30
Gly Arg Arg Gly Glu Thr Arg Pro Cys Trp Ala Arg Ala Gly Thr Pro
35 40 45
Ala Leu Trp Trp Arg Arg Arg Arg Arg Gly His Arg Arg Arg Trp Lys
50 55 60
Gly Arg Arg Arg Gly Val Ser Trp Glu Gly Val Glu Val Asp Thr Trp
65 70 75 80
Lys Gly Ala Pro Gly Gly Pro Gly Gly Val Arg Pro Trp Pro Gly Gly
85 90 95
Val Ser Pro Gly
100

<210> 34
<211> 385
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1842 right: 2996 frame: -1 size(aa): 385

<400> 34

Pro Ala Gly Gly Gly Ala Arg His Gln Ala Arg Leu Pro Arg Pro Arg

1	5	10	15
Arg Gly Arg Arg Arg Arg Gly Leu Ile Ala Pro Cys Tyr Ser Gly Asp	20	25	30
Thr Gly Ser Gly Arg Pro Pro Pro Tyr Ser Asn Arg Pro Trp Pro Ser	35	40	45
Cys Pro Ala Ile Arg Thr Thr Pro Ser Glu Arg Ala Pro Pro Gly Pro	50	55	60
Pro Pro Pro Pro Ala Ser Trp Ser Arg Cys Pro Pro Ser Arg Thr Cys	65	70	80
Cys Ser Arg Arg Thr Thr Pro Pro Pro Ala Ser Gly Asn Gly Ser Ser	85	90	95
Arg Cys Cys Arg Trp Ser Pro Pro Trp Arg Pro Arg Cys Ser Arg Arg	100	105	110
Cys Arg Arg Pro Pro Phe Ala Arg Cys Pro Pro Gly Trp Thr Thr Arg	115	120	125
Ser Ser Arg Pro Gly Asn Trp Cys Ala Gly Leu Arg Ser Trp Leu Thr	130	135	140
Arg Ser Val Cys Asp Ile Leu Arg Gly Asp Cys Ser Arg Ala Leu Ile	145	150	160
Val Glu Arg Arg Gly Asn Cys Pro Ser Thr Ala Pro Pro Pro Asn Gly	165	170	175
His His Leu Tyr Arg His Pro Pro Arg Arg His His Arg His Pro Gln	180	185	190
Val Gly Arg Ala His Leu His Pro Leu Arg Arg Pro Pro Val Gln Arg	195	200	205
Arg His Leu Val Arg Pro Gln Leu Gly Arg Pro Pro Arg Pro Gly His	210	215	220
Arg Ser Arg Cys Glu Asp Arg Gly Pro Gly Asp Arg Gly Asp Arg Arg	225	230	240
Pro His Asp Ser Gly Pro Gln Gly Pro Asp Gln Gly Pro Asp Pro Gly	245	250	255
Cys Pro Pro Gly Arg Arg Leu Leu His Val Arg Leu Gly Pro His Gly	260	265	270
Pro Leu His His Arg Pro Pro Arg Arg Arg His Arg Gln Arg Cys Arg	275	280	285
Leu Pro Val Ser Asn Pro Gly Arg Gly Pro Gln Ala Gly Pro Gln Pro	290	295	300
Gly Leu Thr Pro Pro Gly His Gly Arg Thr Pro Pro Gly Pro Pro Gly	305	310	320
Ala Pro Phe Gln Val Ser Thr Ser Thr Pro Ser His Glu Thr Pro Leu	325	330	335

Arg Leu Pro Phe His Leu Leu Arg Trp Pro Arg Arg Leu Arg Arg His
340 345 350

His Ser Ala Gly Val Pro Ala Arg Ala Gln His Gly Arg Val Ser Pro
355 360 365

Leu Arg Pro Ala Gly Arg Thr Arg Val Trp Arg Pro Gln Pro Cys Pro
370 375 380

Trp
385

<210> 35

<211> 61

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 1992 right: 2174 frame: 1 size(aa): 61

<400> 35

Arg Gly Leu Met Gly Gly Gly Gly Gly Gly His Leu Glu Arg Gly Pro
1 5 10 15

Trp Gly Pro Arg Arg Gly Ser Ala Val Ala Gly Gly Gly Gln Pro Arg
20 25 30

Leu Arg Ala Ser Leu Arg Ala Ser Ala Arg Val Arg Asp Trp Gln Ser
35 40 45

Ala Ser Leu Ala Met Ser Pro Pro Gly Arg Thr Met Val
50 55 60

<210> 36

<211> 145

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 2081 right: 2515 frame: -3 size(aa): 145

<400> 36

Trp Asn Gly Gly Gly Thr Ala Pro Pro Pro Leu Leu Pro Pro Met Ala
1 5 10 15

Thr Thr Phe Thr Ala Thr Leu Pro Asp Gly Thr Thr Ala Thr Arg Lys
20 25 30

Ser Ala Glu Arg Thr Tyr Thr His Cys Val Ala Arg Gln Ser Ser Asp
35 40 45

Gly Thr Trp Phe Ala His Ser Trp Ala Gly Arg Pro Gly Leu Ala Ile
50 55 60

Ala Ala Ala Ala Lys Ile Gly Gly Arg Ala Ile Glu Ala Thr Val Ala
65 70 75 80

His Thr Thr Ala Ala Pro Lys Ala Leu Thr Lys Ala Gln Ile Gln Asp
85 90 95

Ala Leu Arg Ala Ala Gly Tyr Tyr Met Ser Gly Trp Val Arg Met Gly
100 105 110

Arg Tyr Thr Ile Val Arg Pro Gly Gly Asp Ile Ala Asn Asp Ala Asp
115 120 125

Cys Gln Ser Leu Thr Leu Ala Glu Ala Arg Lys Leu Ala Leu Ser Leu
130 135 140

Gly
145

<210> 37

<211> 122

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 2092 right: 2457 frame: 2 size(aa): 122

<400> 37

Gly Pro Ala Cys Gly Pro Arg Pro Gly Leu Glu Thr Gly Ser Arg His
1 5 10 15

Arg Trp Arg Cys Arg Arg Arg Gly Gly Arg Trp Cys Ser Gly Pro Cys
20 25 30

Gly Pro Asn Arg Thr Cys Ser Ser Arg Arg Pro Gly Gly His Pro Gly
35 40 45

Ser Gly Pro Trp Ser Gly Pro Trp Gly Pro Leu Ser Cys Gly Arg Arg
50 55 60

Ser Pro Arg Ser Pro Gly Pro Arg Ser Ser Gln Arg Leu Arg Trp Pro
65 70 75 80

Gly Arg Gly Gly Arg Pro Ser Cys Gly Arg Thr Arg Cys Arg Arg Trp
85 90 95

Thr Gly Gly Arg Arg Ser Gly Cys Arg Cys Ala Arg Pro Thr Cys Gly
100 105 110

Trp Arg Trp Cys Arg Arg Gly Gly Trp Arg
115 120

<210> 38

<211> 372

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 2123 right: 3238 frame: 3 size(aa): 372

<400> 38

Arg Leu Ala Val Gly Ile Val Gly Asp Val Ala Ala Gly Ala Asp Asp
1 5 10 15

Gly Val Ala Ala His Ala Asp Pro Thr Gly His Val Val Ala Gly Gly
20 25 30

Pro Glu Gly Ile Leu Asp Leu Gly Leu Gly Gln Gly Leu Gly Gly Arg
35 40 45

Cys Arg Val Gly Asp Gly Arg Leu Asp Arg Pro Ala Pro Asp Leu Arg
50 55 60

Ser Gly Cys Asp Gly Gln Ala Gly Ala Ala Gly Pro Ala Val Gly Glu
65 70 75 80

Pro Gly Ala Val Ala Gly Leu Ala Gly Asp Ala Val Gly Val Gly Ala
85 90 95

Leu Gly Arg Leu Ala Gly Gly Gly Gly Ala Val Gly Glu Gly Gly Gly
100 105 110

Lys Gly Gly Gly His Trp Gly Glu Glu Arg Trp Arg Gly Ser Ser Pro
115 120 125

Ser Val Pro Leu Leu Lys His Gly Ser Asn Pro Arg Ala Ile Cys His
130 135 140

Arg Arg Ile Glu Ser Ala Arg Ile Ser Ser Arg Arg Thr Ser Ser Arg
145 150 155 160

Ala Cys Ser Ile Trp Trp Ser Ser Arg Ala Asp Ile Gly Gln Thr Gly
165 170 175

Ala Ala Asp Ile Phe Ser Ser Thr Gly Ala Ala Met Gly Gly Ser Ile
180 185 190

Asp Ser Thr Gly Ser Ser Arg Ser Gln Arg Arg Glu Val Glu Leu Cys
195 200 205

Val Cys Cys Ser Arg Ser Ser Arg Ala Asp Ile Cys Ser Arg Thr Pro
210 215 220

Gly Val Gly Ala Asp Leu Gly Ala Leu Ser Arg Met Ala Ser Tyr Gly
225 230 235 240

Ser Arg Gly Met Arg Ala Met Gly Gly Trp Asn Arg Val Gly Ala Gly
245 250 255

Leu Ser Arg Tyr Pro His Tyr Ser Thr Gly Gln Ser Ala Leu Val Val
260 265 270

Val Ala Leu Val Gly Val Gly Ala Ala Glu Leu Gly Gly Glu Leu Leu
275 280 285

His Gln Leu Val Lys Gly Ala Val Leu Asp Val Val Asp Leu Gly Val
290 295 300

Asp Gln Arg Arg Gln Gly Ala Pro Asp Val Gly Val Gly Leu Ala Gly
 305 310 315 320
 Leu Ala Val Val Val Gln Ile Gly Gly Glu Leu Val Gly Pro Val Gly
 325 330 335
 Gly Gly Gln Leu Val Tyr Gly Val Pro Ser Leu Gly Asp Gln Leu Glu
 340 345 350
 Gly Gly Gly Phe Val His Gly Gly Gly Ala Val Gly Ala Leu Arg Pro
 355 360 365
 Pro Tyr Thr Tyr
 370

<210> 39
 <211> 64
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 2211 right: 2402 frame: 1 size(aa): 64

<400> 39

Pro Ala Ala Arg Arg Ala Ser Trp Ile Trp Ala Leu Val Arg Ala Leu
 1 5 10 15
 Gly Ala Ala Val Val Trp Ala Thr Val Ala Ser Ile Ala Arg Pro Pro
 20 25 30
 Ile Phe Ala Ala Ala Ala Met Ala Arg Pro Gly Arg Pro Ala Gln Leu
 35 40 45
 Trp Ala Asn Gln Val Pro Ser Leu Asp Trp Arg Ala Thr Gln Trp Val
 50 55 60

<210> 40
 <211> 100
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 2251 right: 2550 frame: -2 size(aa): 100

<400> 40

His Ile Ala Arg Gly Leu Leu Pro Cys Phe Asn Ser Gly Thr Glu Gly
 1 5 10 15
 Glu Leu Pro Leu His Arg Ser Ser Pro Gln Trp Pro Pro Pro Leu Pro
 20 25 30
 Pro Pro Ser Pro Thr Ala Pro Pro Pro Pro Ala Ser Arg Pro Ser Ala
 35 40 45

```

Pro Thr Pro Thr Ala Ser Pro Ala Ser Pro Ala Thr Ala Pro Gly Ser
 50          55          60

Pro Thr Ala Gly Pro Ala Pro Ala Trp Pro Ser Gln Pro Leu Arg
65          70          75          80

Arg Ser Gly Ala Gly Arg Ser Arg Arg Pro Ser Pro Thr Arg Gln Arg
          85          90          95

Pro Pro Arg Pro
          100

```

<210> 41

<211> 138

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 2461 right: 2874 frame: 2 size(aa): 138

<400> 41

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Arg Trp Trp Pro Leu Gly Gly Gly Ala Val Glu Gly Gln Phe Pro Leu
1          5          10          15

Arg Ser Thr Ile Lys Ala Arg Glu Gln Ser Pro Arg Asn Met Ser Gln
          20          25          30

Thr Asp Arg Val Ser Gln Asp Leu Lys Pro Ala His Gln Phe Pro Gly
          35          40          45

Leu Leu Asp Leu Val Val Gln Pro Gly Gly His Arg Ala Asn Gly Gly
50          55          60

Arg Arg His Leu Leu Glu His Arg Gly Arg His Gly Gly Leu His Arg
65          70          75          80

Gln His Arg Leu Glu Pro Phe Pro Glu Ala Gly Gly Gly Val Val Arg
          85          90          95

Leu Leu Gln Gln Val Leu Glu Gly Gly His Leu Leu Gln Asp Ala Gly
          100          105          110

Gly Gly Gly Gly Pro Gly Gly Ala Leu Ser Asp Gly Val Val Arg Ile
          115          120          125

Ala Gly His Glu Gly His Gly Arg Leu Glu
          130          135

```

<210> 42

<211> 110

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 2523 right: 2852 frame: 1 size(aa): 110

<400> 42

Ser Thr Gly Ala Ile Pro Ala Gln Tyr Val Thr Asp Gly Ser Ser Gln
1 5 10 15
Pro Gly Ser Gln Ala Gly Ala Pro Val Pro Gly Pro Ala Arg Ser Gly
20 25 30
Gly Pro Ala Gly Arg Thr Ser Gly Lys Arg Gly Pro Pro Thr Ser Ser
35 40 45
Arg Ala Pro Gly Pro Pro Trp Gly Ala Pro Ser Thr Ala Pro Ala Arg
50 55 60
Ala Val Pro Arg Gly Gly Arg Trp Ser Cys Ala Ser Ala Ala Ala Gly
65 70 75 80
Pro Arg Gly Arg Thr Ser Ala Pro Gly Arg Arg Gly Trp Gly Arg Thr
85 90 95
Trp Gly Arg Ser Leu Gly Trp Arg Arg Thr Asp Arg Gly Ala
100 105 110

<210> 43

<211> 118

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 2554 right: 2907 frame: -2 size(aa): 118

<400> 43

Trp Gly Tyr Arg Leu Arg Pro Ala Pro Thr Leu Phe Gln Pro Pro Met
1 5 10 15
Ala Leu Met Pro Arg Asp Pro Tyr Asp Ala Ile Arg Glu Ser Ala Pro
20 25 30
Arg Ser Ala Pro Thr Pro Gly Val Leu Glu Gln Met Ser Ala Leu Glu
35 40 45
Asp Leu Leu Gln Gln Thr His Asn Ser Thr Ser Arg Leu Trp Glu Arg
50 55 60
Leu Glu Pro Val Leu Ser Met Glu Pro Pro Met Ala Ala Pro Val Leu
65 70 75 80
Glu Lys Met Ser Ala Ala Pro Val Cys Pro Met Ser Ala Arg Leu Asp
85 90 95
His Gln Ile Glu Gln Ala Arg Glu Leu Val Arg Arg Leu Glu Ile Leu
100 105 110
Ala Asp Ser Ile Arg Leu
115

<210> 44

<211> 114

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 2582 right: 2923 frame: -3 size(aa): 114

<400> 44

Leu Pro Arg Ala Ile Val Gly Ile Pro Ala Gln Ala Gly Pro His Pro
1 5 10 15

Ile Pro Thr Ala His Gly Pro His Ala Pro Arg Ser Val Arg Arg His
20 25 30

Pro Arg Glu Arg Pro Gln Val Arg Pro His Pro Arg Arg Pro Gly Ala
35 40 45

Asp Val Arg Pro Arg Gly Pro Ala Ala Ala Asp Ala Gln Leu His Leu
50 55 60

Pro Pro Leu Gly Thr Ala Arg Ala Gly Ala Val Asp Gly Ala Pro His
65 70 75 80

Gly Gly Pro Gly Ala Arg Glu Asp Val Gly Gly Pro Arg Leu Pro Asp
85 90 95

Val Arg Pro Ala Gly Pro Pro Asp Arg Ala Gly Pro Gly Thr Gly Ala
100 105 110

Pro Ala

<210> 45

<211> 77

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 2895 right: 3125 frame: 1 size(aa): 77

<400> 45

Ala Gly Ile Pro Thr Ile Ala Arg Gly Asn Gln Pro Ser Ser Ser Ser
1 5 10 15

Pro Ser Ser Gly Ser Gly Gln Pro Ser Leu Val Ala Ser Ser Ser Thr
20 25 30

Ser Trp Leu Lys Ala Gln Tyr Ser Met Ser Leu Ile Ser Ala Trp Ile
35 40 45

Ser Gly Ala Arg Val Pro Gln Thr Leu Ala Trp Ala Trp Pro Gly Ser
50 55 60

Gln Trp Ser Tyr Arg Ser Ala Gly Ser Ser Ser Ala Leu
65 70 75

<210> 46
 <211> 109
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 2927 right: 3253 frame: -3 size(aa): 109

<400> 46

Ile	Arg	Arg	Ala	Leu	Ile	Gly	Ile	Arg	Gly	Pro	Lys	Arg	Pro	His	Arg	
1				5					10					15		
Ser	Pro	Thr	Met	Asp	Lys	Ala	Thr	Ala	Leu	Gln	Leu	Ile	Ser	Gln	Ala	
			20					25					30			
Trp	Asp	Ser	Ile	Asn	Gln	Leu	Thr	Ala	Ala	Tyr	Arg	Ala	Asp	Glu	Leu	
		35					40					45				
Pro	Ala	Asp	Leu	Tyr	Asp	His	Cys	Glu	Pro	Gly	Gln	Ala	His	Ala	Asn	
	50					55					60					
Val	Trp	Gly	Thr	Leu	Ala	Pro	Leu	Ile	His	Ala	Glu	Ile	Asn	Asp	Ile	
65				70					75					80		
Glu	Tyr	Cys	Ala	Phe	Asn	Gln	Leu	Val	Glu	Glu	Leu	Ala	Thr	Lys	Leu	
				85					90					95		
Gly	Cys	Pro	Asp	Pro	Asp	Glu	Gly	Asp	Asp	Asp	Glu	Gly				
			100					105								

<210> 47
 <211> 90
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 2927 right: 3253 frame: -3 size(aa): 109

<400> 47

Gly	Ile	Ala	Arg	Leu	Asn	Pro	Pro	Cys	Phe	Asn	Arg	Tyr	Thr	Gly	Ala	
1				5					10					15		
Glu	Ala	Pro	Pro	Pro	Leu	Pro	His	His	Gly	Gln	Ser	His	Arg	Pro	Pro	
			20					25				30				
Ala	Asp	Leu	Pro	Gly	Leu	Gly	Leu	His	Lys	Pro	Ala	Asp	Arg	Arg	Leu	
		35				40					45					
Gln	Gly	Arg	Arg	Ala	Pro	Arg	Arg	Ser	Val	Arg	Pro	Leu	Arg	Ala	Arg	
	50					55					60					
Pro	Gly	Pro	Arg	Gln	Arg	Leu	Gly	His	Pro	Gly	Ala	Ala	Asp	Pro	Arg	
65				70				75						80		
Arg	Asp	Gln	Arg	His	Arg	Val	Leu	Arg	Leu							

85

90

<210> 48
<211> 115
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3025 right: 3369 frame: 2 size(aa): 115

<400> 48

Ser Arg Arg Gly Ser Ala Ala Pro Gly Cys Pro Arg Arg Trp Arg Gly
1 5 10 15
Pro Gly Arg Ala Arg Ser Gly Arg Thr Asp Arg Arg Gly Ala Arg Arg
20 25 30
Pro Cys Arg Arg Arg Ser Ala Gly Leu Trp Ser Pro Lys Pro Gly Arg
35 40 45
Ser Ala Gly Gly Arg Trp Leu Cys Pro Trp Trp Gly Ser Gly Gly Gly
50 55 60
Ala Ser Ala Pro Val Tyr Leu Leu Lys His Gly Gly Phe Ser Arg Ala
65 70 75 80
Ile Pro Gln Arg Arg Ser Gly Phe Val Val Val His Pro Trp Ala Arg
85 90 95
Tyr Arg Arg Gln Ser Ala Arg Ala Ser Ala Thr Pro Thr Val Trp Val
100 105 110
Ser Trp Ala
115

<210> 49
<211> 146
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3129 right: 3566 frame: 1 size(aa): 146

<400> 49

Ala Ala Val Ser Trp Phe Met Glu Ser Gln Ala Trp Glu Ile Ser Trp
1 5 10 15
Arg Ala Val Ala Leu Ser Met Val Gly Glu Arg Trp Gly Arg Phe Gly
20 25 30
Pro Arg Ile Pro Ile Lys Ala Arg Arg Ile Gln Pro Arg Asn Thr Ser
35 40 45
Ala Glu Ile Gly Val Arg Ser Gly Pro Pro Leu Gly Ala Val Ser Ala
50 55 60

Pro Val Gly Ser Gly Leu Arg His Pro Asp Gly Val Gly Val Val Gly
65 70 75 80

Ile Ala Gly Pro Gly Ala Tyr Pro Asp Gly Leu Ala Val Thr Gln Gly
85 90 95

His Val Ala Pro Gly Asp Thr Val Gln Thr Arg Glu Gln Gly Ser Trp
100 105 110

Gln Val Glu Leu Val Asn Arg Leu Gly Ser Arg His Arg Gly Gly Ser
115 120 125

Ser Gly Val Gly Arg Gly Gly Gly Arg Gly Ala Pro Gly Trp Leu Arg
130 135 140

Pro Gly
145

<210> 50

<211> 55

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 3241 right: 3405 frame: -2 size(aa): 55

<400> 50

Arg Pro Gly Arg Pro Asp Lys His Leu Val Arg Leu Cys Pro Arg His
1 5 10 15

Pro His Arg Arg Gly Gly Gly Gly Pro Ser Arg Leu Ala Pro Ile Pro
20 25 30

Arg Pro Gly Val Asp His Tyr Glu Pro Arg Ser Pro Leu Arg Tyr Cys
35 40 45

Ala Ala Glu Ser Ala Val Leu
50 55

<210> 51

<211> 104

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 3273 right: 3584 frame: -1 size(aa): 104

<400> 51

Ser Ser Thr Ser Arg Ser Thr Trp Pro Glu Pro Pro Gly Gly Pro Thr
1 5 10 15

Ala Pro Thr Pro Ser His Pro Thr Ala Pro Pro Thr Met Ser Arg Ser
20 25 30

Gln Pro Ile His Lys Leu Tyr Leu Pro Gly Pro Leu Leu Ser Gly Leu
35 40 45
His Arg Val Ser Arg Ser Tyr Met Pro Leu Gly Asp Gly Gln Ala Val
50 55 60
Arg Ile Ser Thr Trp Ser Gly Tyr Ala His Asp Thr His Thr Val Gly
65 70 75 80
Val Ala Glu Ala Arg Ala Asp Trp Arg Arg Tyr Arg Ala Gln Gly Trp
85 90 95
Thr Thr Thr Asn Pro Asp Leu Arg
100

<210> 52
<211> 106
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3293 right: 3610 frame: 3 size(aa): 106

<400> 52

Trp Ser Thr Pro Gly Arg Gly Ile Gly Ala Ser Arg Leu Gly Pro Pro
1 5 10 15
Pro Pro Arg Arg Cys Gly Cys Arg Gly His Ser Arg Thr Arg Cys Leu
20 25 30
Ser Gly Arg Pro Gly Arg His Pro Gly Ala Cys Ser Ser Gly Arg His
35 40 45
Gly Ala Asp Gln Arg Ala Gly Val Leu Ala Gly Arg Ala Cys Glu Ser
50 55 60
Ala Gly Ile Ser Thr Ser Trp Gly Glu Gln Trp Gly Gly Thr Gly Trp
65 70 75 80
Gly Pro Trp Gly Pro Arg Val Ala Gln Ala Arg Leu Thr Leu Thr Cys
85 90 95
Ser Ile Ser Cys Ala Thr Trp Leu Cys Leu
100 105

<210> 53
<211> 124
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3389 right: 3760 frame: -3 size(aa): 124

<400> 53

Gly Asn Arg Arg Pro Ala His Pro Arg Gly Arg Pro Arg Ala Ala His

```
<210> 54
<211> 101
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3481 right: 3783 frame: 2 size(aa): 101
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<400> 54

[illegible]

<210>	55
<211>	56
<212>	PRT
<213>	Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 3588 right: 3755 frame: -1 size(aa): 56

<400> 55

Ser Thr Thr Cys Ala Ser Ser Arg Pro Thr Ser Ser Ser Ala Pro Ser
1 5 10 15

Arg Ala Thr Pro Ser Ser Ser Lys Thr Pro Ala Arg Arg Gly Ser Ala
20 25 30

Thr Trp Cys Arg Thr Ser Thr Ser Gly Ser Pro Thr Gly Ala Pro Ser
35 40 45

Thr Ser Thr Ala Arg Trp Arg Ser
50 55

<210> 56

<211> 76

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 3652 right: 3879 frame: -2 size(aa): 76

<400> 56

Ile Pro Arg Val Leu Ile Val Val Arg Gly Pro Arg Arg Pro His Arg
1 5 10 15

Phe Gln Thr Met Asp Thr Ile His Thr Gln Phe Ala Glu Ala Gly Leu
20 25 30

Thr Leu Gly Pro Trp Arg Ala Glu Val Ile Asp Asp Leu Arg Ile Leu
35 40 45

Glu Ala Asp Leu Glu Gln Arg Thr Ile Glu Gly Asn Thr Val Val Ile
50 55 60

Gln Asp Ala Gly Gln Glu Gly Leu Ser Tyr Leu Val
65 70 75

<210> 57

<211> 101

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 3662 right: 3964 frame: 3 size(aa): 101

<400> 57

Leu Ser Pro Ser Trp Pro Ala Ser Trp Met Thr Thr Val Leu Pro Ser
1 5 10 15

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Met Val Arg Cys Ser Arg Ser Ala Ser Arg Met Arg Arg Ser Ser Ile
 20 25 30

Thr Ser Ala Arg Gln Gly Pro Arg Val Arg Pro Ala Ser Ala Asn Trp
 35 40 45

Val Trp Met Val Ser Met Val Trp Lys Arg Trp Gly Arg Leu Gly Pro
 50 55 60

Arg Thr Thr Ile Lys Thr Arg Gly Ile Gln Leu Arg Asn Thr Pro Gly
 65 70 75 80

Leu Val Ser Pro Pro Gly Arg Arg Arg Pro Pro Gly Ser Arg Arg Arg
 85 90 95

Arg Arg Ser Ser Arg
 100

<210> 58

<211> 250

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 3693 right: 4442 frame: 1 size(aa): 250

<400> 58

Arg Arg Cys Cys Pro Arg Trp Cys Ala Ala Arg Gly Arg Pro Arg Gly
 1 5 10 15

Cys Ala Gly Arg Arg Leu Pro Gln Pro Ala Arg Gly Gln Gly Leu Gly
 20 25 30

Arg Leu Arg Arg Thr Gly Cys Gly Trp Cys Pro Trp Phe Gly Ser Gly
 35 40 45

Gly Gly Ala Ser Ala Pro Val Gln Leu Leu Lys His Gly Gly Phe Ser
 50 55 60

Cys Ala Ile Pro Arg Gly Trp Ser Ala Arg Gln Val Gly Glu Gly Leu
 65 70 75 80

Pro Asp Leu Gly Val Val Asp Asp Leu Leu Gly Glu Gly Ala Gln Val
 85 90 95

Val Leu Leu Ala Glu Gly His Gly Leu Leu Asp Leu Val Tyr Gly Ala
 100 105 110

Arg Asp Arg Val Val Ala Gly Arg Ala Glu Gly Pro Leu Asp Leu Gly
 115 120 125

Ala Thr Ala Gly Glu Asp Leu Gly Leu Asp Leu Ala Gly Asp Gly Gly
 130 135 140

Glu Gly Gly Ala Val His Gly Val Leu Cys Gly Val Tyr Leu Leu Lys
 145 150 155 160

His Gly Gly Leu Arg Gly Ala Ile Arg Leu Gly Pro Gly Gln Asp Leu

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      165              170              175
-   Gly Pro Val Ala His Glu His His Pro Leu Leu Ala Pro Leu Gly Leu
      180              185              190
-   Val Glu Gly Gly Ala Val Gly His Thr Val Gly Asp Pro Asp Val Val
      195              200              205
-   Asp Arg Gly Pro Ala Ala Ala Leu Ala Pro Ala Met Leu Thr Ile Glu
      210              215              220
-   Val His Leu Ser Gly Ala Val Gly Ala Pro Val Leu Ala Ala Leu Gly
      225              230              235              240
Asp Gly His Pro Gly Gly Leu Glu Gly Ala
      245              250

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<210> 59

<211> 249

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 3764 right: 4510 frame: -3 size(aa): 249

<400> 59

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Ala Pro Pro Gly Pro Gly Arg Gly Pro Ser Leu Val Pro Pro His Pro
1              5              10              15
Asp Thr Pro Trp Pro Ser Tyr Ala Pro Ser Arg Pro Pro Gly Trp Pro
      20              25              30
Ser Pro Ser Ala Ala Ser Thr Gly Ala Pro Thr Ala Pro Leu Arg Cys
      35              40              45
Thr Ser Ile Val Ser Met Ala Gly Ala Arg Ala Ala Ala Gly Pro Arg
      50              55              60
Ser Thr Thr Ser Gly Ser Pro Thr Val Cys Pro Thr Ala Pro Pro Ser
      65              70              75              80
Thr Ser Pro Ser Gly Ala Arg Ser Gly Trp Cys Ser Trp Ala Thr Gly
      85              90              95
Pro Arg Ser Trp Pro Gly Pro Arg Arg Ile Ala Pro Arg Asn Pro Pro
      100             105             110
Cys Phe Asn Arg Tyr Thr Pro His Arg Thr Pro Trp Thr Ala Pro Pro
      115             120             125
Ser Pro Pro Ser Pro Ala Arg Ser Arg Pro Arg Ser Ser Pro Ala Val
      130             135             140
Ala Pro Arg Ser Ser Gly Pro Ser Ala Arg Pro Ala Thr Thr Arg Ser
      145             150             155             160
Leu Ala Pro Tyr Thr Arg Ser Arg Arg Pro Trp Pro Ser Ala Arg Ser
      165             170             175

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Thr Thr Trp Ala Pro Ser Pro Arg Arg Ser Ser Thr Thr Pro Arg Ser
 180 185 190

Gly Arg Pro Ser Pro Thr Trp Arg Ala Asp Gln Pro Arg Gly Ile Ala
 195 200 205

Gln Leu Asn Pro Pro Cys Phe Asn Ser Cys Thr Gly Ala Glu Ala Pro
 210 215 220

Pro Pro Leu Pro Asn His Gly His His Pro His Pro Val Arg Arg Ser
 225 230 235 240

Arg Pro Asn Pro Trp Pro Leu Ala Gly
 245

<210> 60

<211> 222

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 3883 right: 4548 frame: -2 size(aa): 222

<400> 60

Pro Thr Pro Ala Arg Pro Arg Trp Arg Pro Ala Ala Glu Pro Leu Arg
 1 5 10 15

Ala Pro Gly Gly Ala Pro His Ser Ser His Pro Thr Pro Thr Pro His
 20 25 30

Gly Gln Val Thr His Pro Pro Gly Arg Pro Asp Gly His Leu Pro Val
 35 40 45

Pro Gln Ala Pro Gly Arg Gln Arg Pro Arg Ser Gly Ala Leu Arg Ser
 50 55 60

Ser Ala Trp Pro Ala Pro Gly Gln Gln Pro Gly Pro Asp Leu Pro Arg
 65 70 75 80

Pro Gly Arg Arg Arg Tyr Ala Leu Arg His Pro Pro Arg Pro Ala Pro
 85 90 95

Val Gly Arg Gly Ala Gly Gly Val Arg Gly Gln Pro Gly Arg Asp Pro
 100 105 110

Gly Leu Gly Arg Gly Val Leu Arg Leu Val Ile Arg Arg Ala Leu Ile
 115 120 125

Gly Ile His Arg Thr Gly Pro His Gly Pro Arg His Pro Pro Arg His
 130 135 140

Arg Pro Pro Asp Arg Gly Pro Asp Pro Arg Arg Leu Trp Arg Pro Asp
 145 150 155 160

Arg Val Asp Leu Pro Leu Asp Leu Pro Leu His Asp Leu Trp Pro His
 165 170 175

Ile Pro Gly Pro Gly Gly Arg Gly Leu Leu Pro Gly Ala Gln Pro Gly
180 185 190

His Pro His Arg Glu Asp Arg Leu Arg Arg Arg Asp Pro Gly Gly Leu
195 200 205

Arg Leu Pro Gly Gly Leu Thr Ser Pro Gly Val Leu Arg Ser
210 215 220

<210> 61

<211> 85

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 3909 right: 4163 frame: -1 size(aa): 85

<400> 61

Val Tyr Thr Ala Gln Asp Pro Met Asp Arg Ala Thr Leu Pro Ala Ile
1 5 10 15

Ala Arg Gln Ile Glu Ala Gln Ile Leu Ala Gly Cys Gly Ala Gln Ile
20 25 30

Glu Trp Thr Phe Arg Ser Thr Cys His Tyr Thr Ile Ser Gly Pro Ile
35 40 45

Tyr Gln Val Gln Glu Ala Val Ala Phe Cys Gln Glu His Asn Leu Gly
50 55 60

Thr Leu Thr Glu Lys Ile Val Tyr Asp Ala Glu Ile Arg Glu Ala Phe
65 70 75 80

Ala Tyr Leu Ala Gly
85

<210> 62

<211> 171

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 3968 right: 4480 frame: 3 size(aa): 171

<400> 62

Gly Cys Pro Gly Cys Ala Pro Gly Arg Arg Pro Arg Pro Pro Gly Pro
1 5 10 15

Gly Ile Trp Gly Gln Arg Ser Cys Ser Gly Arg Ser Ser Gly Arg Ser
20 25 30

Thr Arg Ser Gly Arg His Ser Arg Arg Gly Ser Gly Pro Arg Ser Gly
35 40 45

Gly Arg Trp Arg Gly Gly Trp Arg Gly Pro Trp Gly Pro Val Arg Cys

50 55 60
 Ile Pro Ile Lys Ala Arg Arg Ile Thr Arg Arg Asn Thr Pro Arg Pro
 65 70 75 80
 Arg Pro Gly Ser Arg Pro Gly Cys Pro Arg Thr Pro Pro Ala Pro Arg
 85 90 95
 Pro Thr Gly Ala Gly Arg Gly Gly Cys Arg Arg Ala Tyr Arg Arg Arg
 100 105 110
 Pro Gly Arg Gly Arg Ser Gly Pro Gly Cys Cys Pro Gly Ala Gly His
 115 120 125
 Ala Asp Asp Arg Ser Ala Pro Glu Arg Gly Arg Trp Arg Pro Gly Ala
 130 135 140
 Cys Gly Thr Gly Arg Trp Pro Ser Gly Arg Pro Gly Gly Cys Val Thr
 145 150 155 160
 Trp Pro Trp Gly Val Gly Val Gly Trp Asp Glu
 165 170

<210> 63

<211> 170

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 4185 right: 4694 frame: -1 size(aa): 170

<400> 63

Ala Ala Gly Arg Gly Pro Trp Cys His Ala Arg His Arg Pro Ala His
 1 5 10 15
 Pro Pro His Arg Gly Ala Pro Pro Asp Gln Pro Gln Glu Gly Arg Pro
 20 25 30
 Pro Gly His His Arg Gly His Pro Gln Val Ala Pro Gly Ala Gly Ala
 35 40 45
 Asp Arg Arg Arg Gln Gly Pro Asp Gly Gly Arg Pro Leu Ser Pro Ser
 50 55 60
 Gly Pro Arg Glu Gly Pro Leu Thr Arg Pro Thr Pro Pro Arg His Pro
 65 70 75 80
 Met Ala Lys Leu Arg Thr Leu Gln Ala Ala Arg Met Ala Ile Ser Gln
 85 90 95
 Cys Arg Lys His Arg Gly Ala Asn Gly Pro Ala Gln Val His Phe Asp
 100 105 110
 Arg Gln His Gly Arg Arg Gln Gly Ser Ser Arg Ala Pro Ile Tyr His
 115 120 125
 Val Arg Val Ala Asp Gly Met Pro Tyr Gly Thr Pro Leu Asp Gln Pro
 130 135 140

Gln Trp Gly Glu Glu Arg Val Val Phe Val Gly Asn Arg Ala Glu Ile
145 150 155 160

Leu Ala Trp Ala Glu Ala Tyr Cys Ala Ser
165 170

<210> 64

<211> 79

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 4375 right: 4611 frame: 2 size(aa): 79

<400> 64

Ala Gly Pro Leu Ala Pro Arg Cys Leu Arg His Trp Glu Met Ala Ile
1 5 10 15

Arg Ala Ala Trp Arg Val Arg Asn Leu Ala Met Gly Cys Arg Gly Gly
20 25 30

Val Gly Arg Val Arg Gly Pro Ser Arg Gly Pro Glu Gly Leu Ser Gly
35 40 45

Arg Pro Pro Ser Gly Pro Cys Arg Arg Arg Ser Ala Pro Ala Pro Gly
50 55 60

Ala Thr Cys Gly Cys Pro Arg Trp Trp Pro Gly Gly Arg Pro Ser
65 70 75

<210> 65

<211> 90

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 4446 right: 4715 frame: 1 size(aa): 90

<400> 65

Leu Gly His Gly Val Ser Gly Trp Gly Gly Thr Ser Glu Gly Pro Leu
1 5 10 15

Pro Gly Pro Gly Gly Ala Gln Arg Pro Ala Ala Ile Trp Ala Leu Pro
20 25 30

Ala Ser Val Ser Thr Ser Thr Arg Cys Asp Leu Arg Val Pro Ser Met
35 40 45

Val Ala Arg Arg Pro Ala Phe Leu Arg Leu Val Arg Arg Gly Ala Ser
50 55 60

Val Arg Gly Met Cys Arg Thr Val Pro Ser Met Ala Pro Arg Pro Ser
65 70 75 80

Pro Cys Cys Ser Ile Thr Arg Pro Thr Leu
85 90

<210> 66

<211> 442

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 4484 right: 5809 frame: 3 size(aa): 442

<400> 66

Gly Ala Pro Pro Gly Ala Arg Arg Gly Ser Ala Ala Gly Arg His Leu
1 5 10 15

Gly Leu Ala Gly Val Gly Gln His Gln His Pro Val Arg Leu Ala Gly
20 25 30

Ala Leu Asp Gly Gly Gln Glu Ala Gly Leu Leu Glu Val Gly Gln Ala
35 40 45

Gly Arg Leu Gly Glu Gly Asp Val Gln Asp Gly Ala Glu His Gly Thr
50 55 60

Thr Ala Leu Ala Leu Leu Leu Asn His Gln Ala Asp Pro Val Glu Gln
65 70 75 80

Arg Leu Gly Gly Val Val Glu Gly Val Pro Gly Glu Ala Gly Pro Leu
85 90 95

Gly Leu Ala Gly Leu Arg Gly Val Glu Ala Gly Leu Gly Gly Ser Gly
100 105 110

Ala Ala Ala Gly Gly Gly Val His Pro Val Val Gly Gly Gly Leu Gly
115 120 125

Asp Gly Leu Gly Gly Pro Leu Leu Gly Gly Gly Gly Gly His Ala Leu
130 135 140

Gly Asp Gly Gly Leu Leu Gly Asp Gly Leu Gly Asp Asp Gly Leu Gly
145 150 155 160

Leu Gly Gln Ala Asp Pro Leu Ala Val Ala Val Glu Val Ala Ala Gly
165 170 175

Gly Ala Gly Tyr Ala Ala Val Leu Asp Val Leu Leu Ala Val Phe Gly
180 185 190

Gly Gln Asn Gly Phe Val Glu Gly Gly Gly Gly Gly Glu Glu Val Arg
195 200 205

His Arg Arg Gly Gly Gly Gly Val Gly Leu Val Pro Pro Asp Cys Trp
210 215 220

Gly Leu Val Gly Ala Trp Val Ala Pro Gly Ala Pro Gly Leu Leu Gly
225 230 235 240

Ala Gly Arg Gly Trp Thr Ala Ala Pro Gly Arg Arg Val Gly Gly Ala

245 250 255
 . Ile Gly Gly Leu Ser Leu Pro Pro Cys Ile Thr Ile Lys Ala Arg Arg
 260 265 270
 . Leu Cys Leu Arg Asn Pro Leu His Ser His Phe Thr Asp Cys His Thr
 275 280 285
 . Ser Gly Leu Ala Thr Ala Ala Glu Leu Val Pro Val Gly Val Gly Leu
 290 295 300
 . Val Leu Val Pro Pro Leu Gly Asp Gly Val Pro Pro Ala His Ala Leu
 305 310 315 320
 Gly Gly Leu Ala Gly Ile Pro Ser Arg Pro Pro Glu Leu Val Val Gly
 325 330 335
 His Arg Pro Gly Leu Gly Leu Pro Ala Gly Glu Val Gly Ser Gly Gly
 340 345 350
 Met Val Gly Ala Gly His Gly Arg Gly Gly Gly Gly Gly Glu Gly Gly
 355 360 365
 Trp Ala Arg Gly Ala Pro Gly Gly Gly Ser Gly Arg Gln Gln Val Val
 370 375 380
 Pro Ala Asp Arg Gly Gln Asp Val Pro Leu Gly Asn Leu Asp Glu Gly
 385 390 395 400
 Leu Val Ala Glu Leu Gly Ile Pro Asp Pro Glu Leu Gly Arg Gly Gly
 405 410 415
 Val Gly Ala Pro Val Ala Gly Gly Ala Gly Gln Pro His Gln Glu Leu
 420 425 430
 Asp Arg Ala Arg Pro Gly Gln Val Pro Val
 435 440
 <210> 67
 <211> 367
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 4514 right: 5614 frame: -3 size(aa): 367
 <400> 67
 Ala Ala Pro Arg Arg Pro Pro Gly Pro Ser Pro Leu Pro Pro Thr Ala
 1 5 10 15
 Thr Pro Thr Met Ser Cys Ala His His Ala Thr Ala Ala Asp Phe Ala
 20 25 30
 Arg Trp Glu Ala Lys Ala Arg Ser Met Thr Asp Tyr Glu Leu Trp Trp
 35 40 45
 Ser Ala Arg Asp Ala Arg Gln Ala Ala Glu Arg Met Arg Gly Trp Asn
 50 55 60

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Pro Val Ala Glu Gly Arg Tyr Glu Asp Glu Ala His Thr Tyr Gly Asp
65          70          75          80

Glu Leu Arg Arg Arg Arg Gln Ala Arg Ser Val Thr Val Cys Glu Val
          85          90          95

Ala Met Gln Gly Ile Ala Gln Ala Gln Pro Pro Cys Phe Asn Ser Tyr
          100          105          110

Thr Arg Gly Glu Arg Gln Pro Pro Asp Gly Ala Thr His Ala Pro Thr
          115          120          125

Arg Gly Ser Ser Pro Ala Pro Thr Arg Pro Gln Gln Ser Gly Gly Thr
130          135          140

Arg Arg His Pro Arg Ala Asp Gln Pro Pro Ala Val Arg Gly His Gln
145          150          155          160

Pro His Pro Thr Ala Thr Pro Pro Met Ser Asp Phe Phe Pro Thr Pro
          165          170          175

Thr Thr Leu Asp Glu Ala Val Leu Ala Ala Glu Tyr Ser Gln Gln Asn
          180          185          190

Val Glu Tyr Cys Gly Ile Thr Cys Thr Pro Ser Gly Tyr Phe Tyr Cys
          195          200          205

His Gly Lys Arg Ile Gly Leu Ala Lys Ala Glu Ala Ile Val Ala Gln
210          215          220

Ala Val Ala Glu Glu Ala Ala Val Ala Glu Gly Met Thr Ala Ala Thr
225          230          235          240

Ala Glu Gln Arg Ala Thr Gln Thr Ile Ser Glu Ala Ala Ala Asp His
          245          250          255

Arg Val Asp Pro Ala Ala Gly Cys Arg Thr Ala Ala Pro Gln Thr Gly
          260          265          270

Leu Asp Thr Pro Glu Pro Arg Gln Pro Lys Arg Thr Gly Phe Thr Trp
275          280          285

Asp Ala Leu Asn Asp Ala Thr Lys Ala Leu Phe Tyr Arg Val Gly Leu
290          295          300

Val Ile Glu Gln Gln Gly Glu Gly Arg Gly Ala Met Leu Gly Thr Val
305          310          315          320

Leu His Ile Pro Leu Thr Glu Ala Pro Arg Leu Thr Asn Leu Lys Lys
          325          330          335

Ala Gly Leu Leu Ala Thr Ile Glu Gly Thr Arg Lys Ser His Arg Val
          340          345          350

Leu Val Leu Thr Asp Ala Gly Lys Ala Gln Met Ala Ala Gly Arg
          355          360          365

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<210> 68
 <211> 135
 <212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 4698 right: 5102 frame: -1 size(aa): 135

<400> 68

Leu Leu Pro His Pro His His Pro Arg Arg Ser Arg Ser Gly Arg Arg
1 5 10 15

Ile Gln Pro Ala Glu Arg Arg Val Leu Arg His Asn Leu His Pro Gln
20 25 30

Arg Leu Leu Leu Leu Pro Arg Gln Ala Asp Arg Pro Gly Gln Gly Arg
35 40 45

Gly His Arg Arg Pro Gly Arg Arg Arg Gly Gly Arg Arg Arg Arg Gly
50 55 60

His Asp Arg Arg His Arg Arg Ala Ala Gly His Pro Asp His Leu Arg
65 70 75 80

Gly Arg Arg Arg Pro Pro Gly Gly Pro Arg Arg Arg Leu Pro His Arg
85 90 95

Cys Pro Pro Asp Arg Pro Arg His Pro Gly Ala Pro Pro Ala Gln Ala
100 105 110

Asp Arg Leu His Leu Gly Arg Pro Gln Arg Arg His Gln Gly Ala Val
115 120 125

Leu Gln Gly Arg Pro Gly Asp
130 135

<210> 69

<211> 68

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 4702 right: 4905 frame: -2 size(aa): 68

<400> 69

Pro Pro Pro Pro Pro Ser Ser Gly Pro Pro Arg Pro Ser Pro Arg Pro
1 5 10 15

Pro Pro Thr Thr Gly Trp Thr Pro Pro Ala Ala Ala Pro Leu Pro
20 25 30

Pro Arg Pro Ala Ser Thr Pro Arg Ser Pro Ala Ser Pro Ser Gly Pro
35 40 45

Ala Ser Pro Gly Thr Pro Ser Thr Thr Pro Pro Arg Arg Cys Ser Thr
50 55 60

Gly Ser Ala Trp

65

<210> 70

<211> 92

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 4719 right: 4994 frame: 1 size(aa): 92

<400> 70

Asn	Ser	Ala	Leu	Val	Ala	Ser	Leu	Arg	Ala	Ser	Gln	Val	Lys	Pro	Val
1				5					10					15	

Arg	Leu	Gly	Trp	Arg	Gly	Ser	Gly	Val	Ser	Arg	Pro	Val	Trp	Gly	Ala
		20					25						30		

Ala	Val	Arg	Gln	Pro	Ala	Ala	Gly	Ser	Thr	Arg	Trp	Ser	Ala	Ala	Ala
		35					40					45			

Ser	Glu	Met	Val	Trp	Val	Ala	Arg	Cys	Ser	Ala	Val	Ala	Ala	Val	Met
	50					55					60				

Pro	Ser	Ala	Thr	Ala	Ala	Ser	Ser	Ala	Thr	Ala	Trp	Ala	Thr	Met	Ala
65					70					75					80

Ser	Ala	Leu	Ala	Arg	Pro	Ile	Arg	Leu	Pro	Trp	Gln
				85					90		

<210> 71

<211> 176

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 4759 right: 5286 frame: 2 size(aa): 176

<400> 71

Ser	Arg	Ser	Ala	Trp	Ala	Gly	Gly	Ala	Pro	Gly	Cys	Arg	Gly	Arg	Ser
1				5					10					15	

Gly	Gly	Gln	Arg	Cys	Gly	Ser	Arg	Arg	Arg	Gly	Pro	Pro	Gly	Gly	Arg
		20						25					30		

Arg	Arg	Pro	Arg	Arg	Trp	Ser	Gly	Trp	Pro	Ala	Ala	Arg	Arg	Trp	Arg
		35					40					45			

Arg	Ser	Cys	Pro	Arg	Arg	Arg	Arg	Pro	Pro	Arg	Arg	Arg	Pro	Gly	Arg
	50					55					60				

Arg	Trp	Pro	Arg	Pro	Trp	Pro	Gly	Arg	Ser	Ala	Cys	Arg	Gly	Ser	Arg
65					70					75					80

Ser	Ser	Arg	Trp	Gly	Cys	Arg	Leu	Cys	Arg	Ser	Thr	Arg	Arg	Ser	Ala
				85					90						95

Gly Cys Ile Arg Arg Pro Glu Arg Leu Arg Arg Gly Trp Trp Gly Trp
100 105 110

Gly Arg Ser Gln Thr Ser Glu Gly Trp Arg Trp Gly Gly Val Gly Ala
115 120 125

Pro Gly Leu Leu Gly Ala Gly Arg Arg Val Gly Gly Ala Trp Cys Pro
130 135 140

Arg Thr Ala Gly Gly Gly Ser Gly Leu Asp Cys Cys Pro Trp Ser Ala
145 150 155 160

Arg Gly Trp Arg His Arg Gly Val Val Ser Pro Pro Leu Tyr Asn Tyr
165 170 175

<210> 72

<211> 92

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 5004 right: 5279 frame: 1 size(aa): 92

<400> 72

Pro Leu Gly Val Gln Val Met Pro Gln Tyr Ser Thr Phe Cys Trp Leu
1 5 10 15

Tyr Ser Ala Ala Arg Thr Ala Ser Ser Arg Val Val Gly Val Gly Lys
20 25 30

Lys Ser Asp Ile Gly Gly Val Ala Val Gly Trp Gly Trp Cys Pro Arg
35 40 45

Thr Ala Gly Gly Trp Ser Ala Arg Gly Trp Arg Leu Val Pro Pro Asp
50 55 60

Cys Trp Gly Arg Val Gly Ala Gly Leu Leu Pro Leu Val Gly Ala Trp
65 70 75 80

Val Ala Pro Ser Gly Gly Cys Leu Ser Pro Leu Val
85 90

<210> 73

<211> 106

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 5023 right: 5340 frame: -2 size(aa): 106

<400> 73

Gln Ser Val Lys Trp Leu Cys Arg Gly Leu Arg Arg His Ser Arg Arg
1 5 10 15

Ala Leu Ile Val Ile Gln Gly Gly Arg Asp Asn Pro Pro Met Ala Pro
 20 25 30

Pro Thr Arg Arg Pro Gly Ala Ala Val Gln Pro Arg Pro Ala Pro Ser
 35 40 45

Ser Pro Gly Ala Pro Gly Ala Thr His Ala Pro Thr Ser Pro Gln Gln
 50 55 60

Ser Gly Gly Thr Asn Pro Thr Pro Pro Pro Pro Leu Arg Cys Leu Thr
 65 70 75 80

Ser Ser Pro Pro Pro Pro Pro Ser Thr Lys Pro Phe Trp Pro Pro Asn
 85 90 95

Thr Ala Ser Arg Thr Ser Ser Thr Ala Ala
 100 105

<210> 74
 <211> 59
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 5106 right: 5282 frame: -1 size(aa): 59

<400> 74

Leu Tyr Lys Gly Gly Glu Thr Thr Pro Arg Trp Arg His Pro Arg Ala
 1 5 10 15

Asp Gln Gly Gln Gln Ser Ser Pro Asp Pro Pro Pro Ala Val Arg Gly
 20 25 30

His Gln Ala Pro Pro Thr Arg Arg Pro Ala Pro Ser Ser Pro Gly Ala
 35 40 45

Pro Thr Pro Pro His Arg His Pro Ser Asp Val
 50 55

<210> 75
 <211> 174
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 5326 right: 5847 frame: 2 size(aa): 174

<400> 75

Pro Leu His Arg Leu Ser His Phe Gly Pro Gly Asp Gly Gly Gly Ala
 1 5 10 15

Arg Pro Arg Arg Cys Gly Pro Arg Pro Arg Thr Ala Pro Arg Arg Arg
 20 25 30

Gly Ser Thr Arg Ala Cys Ala Arg Arg Pro Gly Gly His Pro Glu Pro

35

40

45

Thr Thr Arg Ala Arg Ser Arg Ser Ser Thr Gly Pro Trp Pro Pro Ser
50 55 60

Gly Arg Ser Arg Gln Arg Trp His Gly Gly Arg Arg Thr Trp Ser Gly
65 70 75 80

Trp Arg Trp Gly Gly Gly Gly Met Gly Pro Gly Gly Ala Gly Gly Arg
85 90 95

Leu Arg Pro Ala Ala Gly Arg Pro Gly Arg Ser Gly Ser Gly Arg Pro
100 105 110

Ala Trp Gln Pro Arg Arg Gly Ser Arg Gly Arg Ala Trp His Ser Arg
115 120 125

Pro Gly Thr Trp Pro Arg Trp Cys Gly Arg Pro Ser Ser Arg Gly Cys
130 135 140

Gly Thr Ala Thr Pro Gly Ala Arg Pro Ser Ser Thr Arg Ser Gly Pro
145 150 155 160

Gly Leu Glu Pro Ala Pro Arg Gly Trp Pro Trp Ala Gly Arg
165 170

<210> 76

<211> 186

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 5334 right: 5891 frame: -1 size(aa): 186

<400> 76

Ser Ala Gly Arg Ser Arg Gln Pro Gly Gly Gly Leu Tyr Arg Gln Arg
1 5 10 15

Pro Ala His Gly His Pro Arg Gly Ala Gly Ser Lys Pro Gly Pro Asp
20 25 30

Leu Val Glu Leu Gly Arg Ala Pro Gly Val Ala Val Pro His Pro Arg
35 40 45

Leu Leu Gly Arg Pro His His Leu Gly Gln Val Pro Gly Leu Glu Cys
50 55 60

Gln Ala Arg Pro Arg Asp Pro Arg Arg Gly Cys Gln Ala Gly Arg Pro
65 70 75 80

Asp Pro Asp Leu Pro Gly Arg Pro Ala Ala Gly Leu Ser Arg Pro Pro
85 90 95

Ala Pro Pro Gly Pro Ile Pro Pro Pro Pro His Arg His Pro Asp His
100 105 110

Val Leu Arg Pro Pro Cys His Arg Cys Arg Leu Arg Pro Leu Gly Gly
115 120 125

Gln Gly Pro Val Asp Asp Arg Leu Arg Ala Leu Val Val Gly Ser Gly
 130 135 140

Cys Pro Pro Gly Arg Arg Ala His Ala Arg Val Glu Pro Arg Arg Arg
 145 150 155 160

Gly Ala Val Arg Gly Arg Gly Pro His Leu Arg Gly Arg Ala Pro Pro
 165 170 175

Pro Ser Pro Gly Pro Lys Cys Asp Ser Leu
 180 185

<210> 77

<211> 86

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 5487 right: 5744 frame: 1 size(aa): 86

<400> 77

Ser Val Ile Asp Arg Ala Leu Ala Ser Gln Arg Ala Lys Ser Ala Ala
 1 5 10 15

Val Ala Trp Trp Ala Gln Asp Met Val Gly Val Ala Val Gly Gly Arg
 20 25 30

Gly Asp Gly Pro Gly Gly Arg Arg Gly Ala Ala Gln Ala Gly Ser Arg
 35 40 45

Ser Ser Arg Gln Ile Gly Val Arg Thr Ser Arg Leu Ala Thr Ser Thr
 50 55 60

Arg Val Ser Trp Pro Ser Leu Ala Phe Gln Thr Arg Asn Leu Ala Glu
 65 70 75 80

Val Val Trp Ala Pro Gln
 85

<210> 78

<211> 52

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 5494 right: 5649 frame: -2 size(aa): 52

<400> 78

Pro Arg Ser Ala Gly Thr Thr Cys Cys Arg Pro Glu Pro Pro Pro Gly
 1 5 10 15

Ala Pro Arg Ala His Pro Pro Ser Pro Pro Pro Pro Arg Pro Cys
 20 25 30

Pro Ala Pro Thr Met Pro Pro Leu Pro Thr Ser Pro Ala Gly Arg Pro
35 40 45

Arg Pro Gly Arg
50

<210> 79

<211> 153

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 5618 right: 6076 frame: -3 size(aa): 153

<400> 79

Pro Thr Arg Ala Gly Pro Ser Gly Pro Pro Thr Pro Gly Pro Thr Trp
1 5 10 15

Ala Asp Ser Pro Gly Gly Phe Gly Pro His Pro Asp Pro Gly Arg Ile
20 25 30

Ala Ser Gly Val Phe Pro Cys Phe Asn Ser Gly Thr Gly Ala Glu Cys
35 40 45

Pro Thr Arg Arg Pro Arg Gly Arg Ser Ser Arg Glu Ser Asp Gln Leu
50 55 60

Asp Glu Val Gly Asn Arg Val Ala Gly Phe Thr Val Asn Gly Gln Pro
65 70 75 80

Met Ala Thr His Glu Val Arg Ala Leu Asn Arg Asp Leu Thr Trp Ser
85 90 95

Ser Ser Val Glu Leu Leu Val Trp Leu Ser Arg Thr Pro Gly Tyr Trp
100 105 110

Gly Ala His Thr Thr Ser Ala Lys Phe Arg Val Trp Asn Ala Lys Leu
115 120 125

Gly His Glu Thr Leu Val Glu Val Ala Lys Arg Asp Val Leu Thr Pro
130 135 140

Ile Cys Arg Asp Asp Leu Leu Pro Ala
145 150

<210> 80

<211> 218

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 5812 right: 6465 frame: -2 size(aa): 218

<400> 80

His Pro Arg Trp Trp Leu Arg Cys Glu Gly Ser Pro Lys Arg Pro Ile

1					5					10					15				
Gln	His	Arg	Arg	His	Pro	Leu	His	Arg	Gly	Gly	Arg	Pro	Arg	Pro	His				
			20				25						30						
Pro	Val	Gln	Thr	Arg	Ser	Pro	His	Asp	Arg	Ser	His	Arg	Gln	Ala	Asp				
			35				40						45						
Gln	Arg	Ala	Gln	Ala	His	Arg	Val	Leu	Leu	Arg	Cys	Pro	Glu	Ser	Gly				
			50				55						60						
Asp	Gln	Gly	Pro	Val	Leu	Pro	Pro	Leu	Arg	Gly	Asp	Pro	Asp	Arg	His				
65				70						75						80			
Pro	Gly	Pro	Arg	His	Asp	Cys	Arg	Arg	Pro	Pro	Gly	His	Arg	Arg	Gln				
			85						90						95				
Gly	Ala	Pro	Asp	Arg	Arg	Pro	Pro	Pro	Asp	Gln	Pro	Gln	Glu	Gly	Gly				
			100						105						110				
Pro	Pro	Gly	Asp	Arg	Arg	Gly	Arg	Glu	Glu	Val	Pro	Gln	Asp	Ala	Pro				
			115			120						125							
Pro	Asp	Arg	Arg	Gly	Pro	Gly	His	Leu	Gly	Arg	Pro	His	Arg	Gly	Arg				
			130			135						140							
Pro	Gly	Leu	Ile	His	Pro	Gly	Ala	Ser	Ala	Pro	Ile	Pro	Thr	Pro	Gly				
145				150						155						160			
Val	Leu	Arg	Pro	Gly	Phe	Phe	Arg	Ala	Leu	Ile	Val	Glu	Gln	Gly	Arg				
			165						170						175				
Asn	Ala	Pro	Leu	Asp	Gly	Pro	Gly	Ala	Ala	Pro	Leu	Val	Asn	Leu	Ile				
			180			185						190							
Ser	Trp	Thr	Lys	Ser	Ala	Thr	Gly	Trp	Arg	Ala	Leu	Pro	Ser	Thr	Ala				
			195			200						205							
Ser	Pro	Trp	Pro	Pro	Thr	Arg	Cys	Gly	Leu										
			210			215													

<210> 81

<211> 69

<212> PRT

<213> Cyanophage S-2L

<220>

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<221> misc feature
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<223> New ORF = left: 5813 right: 6019 frame: 3 size(aa): 69
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<400> 81

Ser	Pro	His	Leu	Val	Gly	Gly	His	Gly	Leu	Ala	Val	Asp	Gly	Lys	Ala
1				5					10					15	
Arg	His	Pro	Val	Ala	Asp	Phe	Val	Gln	Leu	Ile	Arg	Phe	Thr	Arg	Gly
			20					25					30		
Ala	Ala	Pro	Gly	Pro	Ser	Ser	Gly	Ala	Phe	Arg	Pro	Cys	Ser	Thr	Ile
		35					40					45			

Lys Ala Arg Lys Asn Pro Gly Arg Asn Thr Pro Gly Val Gly Met Gly
50 55 60

Ala Glu Ala Pro Gly
65

<210> 82
<211> 353
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5892 right: 6950 frame: 1 size(aa): 353

<400> 82

Ser Asp Ser Arg Glu Glu Arg Pro Leu Gly Arg Arg Val Gly His Ser
1 5 10 15

Ala Pro Val Pro Leu Leu Lys His Gly Lys Thr Pro Asp Ala Ile Arg
20 25 30

Pro Gly Ser Gly Trp Gly Pro Lys Pro Pro Gly Glu Ser Ala Gln Val
35 40 45

Gly Pro Gly Val Gly Gly Pro Asp Gly Pro Ala Leu Val Gly Gln Ala
50 55 60

Glu His Leu Val Gly Leu Leu Leu Ala Leu Asp Gly Leu Gln Glu Ala
65 70 75 80

Arg Leu Leu Glu Val Gly Gln Ala Gly Gly Val Gly Gln Gly His Leu
85 90 95

Asp Val Gly Ala Gln Ala Gly Gly Gly Ser His Ala Val Val Pro Gly
100 105 110

Gly Gly Leu Asp Leu Leu Ala Glu Ala Glu Glu Gln Val Leu Gly Arg
115 120 125

Leu Ile Gln Gly Ile Glu Gly Glu Pro Gly Ala Leu Gly Leu Phe Gly
130 135 140

Leu Leu Gly Gly Gly Phe Gly His Gly Gly Phe Glu Phe Gly Leu Asp
145 150 155 160

Val Gly Glu Gly Gly Leu Leu Gly Ala Thr Gly Ala Val Asp Ala Glu
165 170 175

Ser Ala Ala Trp Val Asn Leu His Thr Val Thr Thr Ser Gly Gly Val
180 185 190

Ile Ala Leu Gly Asp Gly Gly Pro Thr Leu Asp Glu Ile Gly Gly Leu
195 200 205

Asn Gly His Gly Trp Arg Gly Gly Gly Asp Arg Val Cys Leu Arg Ser
210 215 220

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Thr Ser Lys Ala Arg Gly Leu Cys Pro Arg Asn Ser Pro Asn Arg Arg
 225 230 235 240
 Phe Thr Gly Cys Asn Lys Arg Pro Ala Pro Gly Gly Gly Pro Ala Ala
 245 250 255
 Ala Ala Gly Arg Arg Arg Arg Pro Ser Arg Arg Pro Pro Ala Ala Ala
 260 265 270
 Ala Pro Ala Arg Ala Pro Gly Pro Pro Pro His Lys Ala Gly Gly Thr
 275 280 285
 Gly Arg Gly Arg Ser Gln Ala Gly Ala Gly Arg Arg Pro Gln Thr Arg
 290 295 300
 Tyr His Pro Pro Ala Cys Ser Ala Trp Arg Arg Ser Thr Thr Pro Pro
 305 310 315 320
 Ser Arg Ala Trp Pro Pro Arg Arg Ala Arg Gly Pro Gly Ala Gln Ala
 325 330 335
 Gly Ala Leu Gln Asp Leu Leu Arg Val Pro Pro Ser Pro Ser Ala Ser
 340 345 350
 Val

<210> 83
 <211> 106
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 5959 right: 6276 frame: 2 size(aa): 106

<400> 83

Ser Thr Glu Lys Pro Arg Thr Gln Tyr Ala Arg Gly Arg Asp Gly Gly
 1 5 10 15
 Arg Ser Pro Arg Val Asn Gln Pro Arg Ser Ala Pro Val Trp Ala Ala
 20 25 30
 Gln Met Ala Arg Pro Ser Ser Val Arg Arg Ser Ile Leu Trp Asp Phe
 35 40 45
 Phe Ser Pro Ser Thr Val Ser Arg Arg Pro Ala Phe Leu Arg Leu Val
 50 55 60
 Arg Arg Gly Ala Ser Val Arg Gly Thr Leu Thr Ser Val Pro Arg Arg
 65 70 75 80
 Ala Ala Ala Val Met Pro Trp Ser Arg Val Ala Val Trp Ile Ser Ser
 85 90 95
 Gln Arg Arg Lys Asn Arg Ser Leu Val Ala
 100 105

<210> 84

<211> 185
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 6027 right: 6581 frame: -1 size(aa): 185

<400> 84

Pro Pro Cys Phe Thr Ser Gly Thr Glu Thr Asp Thr Ile Ser Thr Ala
1 5 10 15
Ser Pro Pro Met Thr Val Gln Pro Ala Asp Leu Ile Lys Arg Trp Thr
20 25 30
Thr Val Ala Gln Arg Asp Asn Thr Pro Ala Gly Gly Tyr Gly Val Lys
35 40 45
Val His Pro Ser Gly Arg Phe Ser Ile Asp Gly Thr Arg Cys Thr Glu
50 55 60
Glu Ala Ala Leu Ala His Ile Gln Ser Lys Leu Glu Ala Pro Met Thr
65 70 75 80
Glu Ala Thr Ala Lys Gln Thr Lys Glu Pro Lys Arg Thr Gly Phe Ser
85 90 95
Phe Asp Ala Leu Asn Gln Ala Thr Lys Asp Leu Phe Phe Arg Leu Cys
100 105 110
Glu Glu Ile Gln Thr Ala Thr Arg Asp His Gly Met Thr Ala Ala Ala
115 120 125
Arg Leu Gly Thr Asp Val Lys Val Pro Leu Thr Asp Ala Pro Arg Leu
130 135 140
Thr Asn Leu Lys Lys Ala Gly Leu Leu Glu Thr Val Glu Gly Glu Lys
145 150 155 160
Lys Ser His Lys Met Leu Arg Leu Thr Asp Glu Gly Arg Ala Ile Trp
165 170 175
Ala Ala His Thr Gly Ala Asp Leu Gly
180 185

<210> 85
<211> 78
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 6182 right: 6415 frame: 3 size(aa): 78

<400> 85

Arg Arg Cys Pro Gly Gly Arg Arg Gln Ser Cys Arg Gly Pro Gly Trp
1 5 10 15

Arg Ser Gly Ser Pro Arg Arg Gly Gly Arg Thr Gly Pro Trp Ser Pro
20 25 30

Asp Ser Gly His Arg Arg Arg Thr Arg Cys Ala Trp Ala Leu Trp Ser
35 40 45

Ala Trp Arg Trp Leu Arg Ser Trp Gly Leu Arg Val Trp Thr Gly Cys
50 55 60

Gly Arg Gly Arg Pro Pro Arg Cys Asn Gly Cys Arg Arg Cys
65 70 75

<210> 86

<211> 51

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 6280 right: 6432 frame: 2 size(aa): 51

<400> 86

Phe Arg Ala Ser Lys Glu Asn Pro Val Arg Leu Gly Ser Leu Val Cys
1 5 10 15

Leu Ala Val Ala Ser Val Met Gly Ala Ser Ser Leu Asp Trp Met Trp
20 25 30

Ala Arg Ala Ala Ser Ser Val Gln Arg Val Pro Ser Met Leu Asn Arg
35 40 45

Pro Leu Gly
50

<210> 87

<211> 147

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 6517 right: 6957 frame: 2 size(aa): 147

<400> 87

Thr Val Met Gly Gly Glu Ala Val Glu Ile Val Ser Val Ser Val Pro
1 5 10 15

Leu Val Lys His Gly Gly Tyr Ala Leu Ala Ile Pro Arg Ile Asp Gly
20 25 30

Ser Gln Ala Val Thr Asn Ala Leu Leu Pro Glu Ala Gly Pro Gln Pro
35 40 45

Leu Gln Val Gly Gly Gly Asp Leu Leu Ala Val Leu Gln Pro Leu Gln
50 55 60

His Arg Leu Glu Leu Arg Ala Arg Arg Leu Thr Lys Pro Ala Val Gln
65 70 75 80
Val Gly Val Gly Leu Arg Arg Gly Arg Gly Gly Gly Leu Lys Leu Ala
85 90 95
Thr Ile Leu Gln Leu Val Pro His Gly Ala Gly Arg Gln His His Arg
100 105 110
Ala Glu Pro Gly Pro His Asp Glu Leu Val Val Pro Ala Pro Arg Pro
115 120 125
Ala Arg Ser Arg Ile Cys Ser Gly Cys Arg Pro Arg His Arg Pro Leu
130 135 140

Cys Ser Arg
145

<210> 88

<211> 71

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 6524 right: 6736 frame: -3 size(aa): 71

<400> 88

Gly Gly Gly Pro Gly Ala Arg Ala Gly Ala Ala Ala Ala Gly Gly Arg
1 5 10 15
Arg Glu Gly Arg Arg Arg Arg Pro Ala Ala Ala Ala Gly Pro Pro Pro
20 25 30
Gly Ala Gly Arg Leu Leu Gln Pro Val Asn Arg Leu Phe Gly Glu Leu
35 40 45
Arg Gly His Ser Pro Arg Ala Leu Leu Val Glu Arg Arg Gln Thr Arg
50 55 60
Ser Pro Pro Pro Arg His Pro
65 70

<210> 89

<211> 126

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 6585 right: 6962 frame: -1 size(aa): 126

<400> 89

Ser Tyr Arg Leu His Arg Gly Arg Trp Arg Gly Arg His Pro Glu Gln
1 5 10 15
Ile Leu Glu Arg Ala Gly Leu Gly Ala Gly Thr Thr Ser Ser Ser Trp

20 25 30
 Gly Pro Gly Ser Ala Arg Trp Cys Cys Arg Pro Ala Pro Cys Gly Thr
 35 40 45
 Ser Trp Arg Met Val Ala Ser Leu Arg Pro Pro Pro Arg Pro Arg Leu
 50 55 60
 Arg Pro Thr Pro Thr Cys Thr Ala Gly Phe Val Arg Arg Arg Ala Arg
 65 70 75 80
 Ser Ser Ser Arg Cys Cys Ser Gly Trp Arg Thr Ala Arg Arg Ser Pro
 85 90 95
 Pro Pro Thr Cys Ser Gly Cys Gly Pro Ala Ser Gly Ser Arg Ala Phe
 100 105 110
 Val Thr Ala Cys Glu Pro Ser Ile Arg Gly Ile Ala Arg Ala
 115 120 125

<210> 90

<211> 122

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 6616 right: 6981 frame: -2 size(aa): 122

<400> 90

His Leu Arg Pro Lys Ile Ile Leu Pro Thr Thr Gln Arg Pro Met Ala
 1 5 10 15
 Arg Ala Ala Pro Gly Ala Asp Pro Gly Ala Arg Arg Pro Gly Arg Arg
 20 25 30
 Asp His Glu Leu Val Val Gly Ala Arg Leu Cys Ser Val Val Leu Ser
 35 40 45
 Thr Gly Ala Met Arg Asn Lys Leu Glu Asp Gly Ser Glu Phe Glu Ala
 50 55 60
 Ala Ala Pro Pro Pro Pro Glu Thr Asp Pro Asp Leu Tyr Arg Arg Leu
 65 70 75 80
 Cys Glu Ala Ala Gly Pro Glu Leu Glu Pro Val Leu Gln Arg Leu Glu
 85 90 95
 Asp Gly Glu Lys Val Ala Ala Ala Asp Leu Gln Arg Leu Arg Ala Arg
 100 105 110
 Leu Arg Glu Gln Gly Val Cys Tyr Ser Leu
 115 120

<210> 91

<211> 248

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 6626 right: 7369 frame: 3 size(aa): 248

<400> 91

Gln Thr Pro Cys Ser Arg Arg Arg Ala Arg Ser Arg Cys Arg Ser Ala
 1 5 10 15
 Ala Ala Thr Phe Ser Pro Ser Ser Ser Arg Cys Ser Thr Gly Ser Ser
 20 25 30
 Ser Gly Pro Ala Ala Ser Gln Ser Arg Arg Tyr Arg Ser Gly Ser Val
 35 40 45
 Ser Gly Gly Gly Gly Ala Ala Ala Ser Asn Ser Leu Pro Ser Ser Ser
 50 55 60
 Leu Phe Arg Met Ala Pro Val Asp Asn Thr Thr Glu Gln Ser Leu Ala
 65 70 75 80
 Pro Thr Thr Ser Ser Trp Ser Arg Arg Pro Gly Arg Arg Ala Pro Gly
 85 90 95
 Ser Ala Pro Gly Ala Ala Leu Ala Ile Gly Leu Cys Val Val Gly Lys
 100 105 110
 Ile Ile Leu Gly Arg Lys Cys His Thr Asp Ala Ala Val Asp Lys Val
 115 120 125
 Asn His Thr Gly Asp Arg Phe Lys Asp Lys Thr His Pro Val Arg Ala
 130 135 140
 Phe Ile Val Thr Glu Ala Ala Asp Val Glu Leu Gly Gly Thr Leu Gln
 145 150 155 160
 Ala Asp Asp Pro Leu Leu Glu Gln Val Gly Val Arg Gln Gly Gly Ala
 165 170 175
 Val Glu Ser Pro Gly Val Val Pro Gly Asp Arg Cys Asp Gln Ala Gln
 180 185 190
 Val Ala Glu Asp Glu Pro Val Pro Ser Pro Ser Ala Gly Pro Asp Asp
 195 200 205
 Gly Arg Gly His Arg Leu Arg Val Ser Gln Pro Gly Leu Asp Pro Ala
 210 215 220
 Pro Gln Glu Asp Phe Leu Pro Ala Ser Glu Glu Gly Val Leu Pro Ser
 225 230 235 240
 Asp Val Glu Glu Gly Gln Val Val
 245

<210> 92

<211> 203

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 6806 right: 7414 frame: -3 size(aa): 203

<400> 92

Arg Cys Ala Met Val Ala Gln Pro Pro Arg Pro Thr Leu Val Ser Asp
1 5 10 15

Asp Leu Pro Phe Leu Asp Ile Ala Gly Lys Tyr Pro Leu Leu Thr Arg
20 25 30

Arg Glu Glu Ile Leu Leu Gly Arg Arg Ile Gln Ala Trp Leu Thr His
35 40 45

Pro Glu Pro Val Pro Pro Ala Ile Val Arg Ser Gly Arg Arg Ala Arg
50 55 60

Asp Arg Phe Val Leu Cys Asn Leu Arg Leu Val Ala Ser Ile Ala Arg
65 70 75 80

Tyr Tyr Thr Arg Arg Leu Asp Gly Thr Ser Leu Thr Tyr Ala Asp Leu
85 90 95

Leu Gln Glu Gly Val Ile Gly Leu Gln Arg Ser Ala Glu Leu Tyr Ile
100 105 110

Arg Ser Phe Cys Asn Asn Lys Cys Thr His Arg Met Cys Phe Ile Leu
115 120 125

Glu Ser Ile Thr Arg Val Ile Tyr Leu Ile His Gly Ser Ile Gly Met
130 135 140

Thr Leu Thr Ala Gln Asn Asn Leu Thr Asp Tyr Thr Glu Ala Asp Gly
145 150 155 160

Glu Gly Gly Thr Arg Ser Arg Ser Trp Ser Ala Pro Ala Trp Ala Pro
165 170 175

Gly Pro Arg Ala Arg Arg Gly Gly Gln Ala Leu Leu Gly Gly Val Val
180 185 190

Asp Arg Arg His Ala Glu Gln Ala Gly Gly Trp
195 200

<210> 93

<211> 392

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 7068 right: 8243 frame: -1 size(aa): 392

<400> 93

Thr Ala Ser Cys Gly Gln Asp Gln Arg Cys Ala Leu Asp Val Val Ser
1 5 10 15

Phe His Val Phe Arg Ser Ser Thr Pro Ser Ile Ala His Arg Tyr Ile

20	25	30
Gly Arg Thr Pro Pro Arg Glu Arg Thr Trp Ser Arg Ser Pro Trp Arg 35 40 45		
Lys Ala Thr Cys Trp Thr Thr Pro Thr Ser Cys Pro Ser Ser Arg Ile 50 55 60		
Arg His Ser Trp Asp Gln Ala Ala Pro Gly Gly Ala Ser Pro Arg Gly 65 70 75 80		
Pro Ala Cys Ser Arg Tyr Arg Trp Leu Pro Gln Ala Ser Lys Ser Trp 85 90 95		
Thr Val Thr Gly Arg Glu Lys Asn Ala Asp Ile Asp Trp Ala Thr Ala 100 105 110		
Pro Met Ser Ala Ser Thr Thr Thr Phe Ile Ala Pro Ser Ala Trp Pro 115 120 125		
Pro Trp Pro Pro Leu Pro Gly Pro Leu Arg Pro Arg Pro Gly Asp Gly 130 135 140		
Ala Thr Trp Pro Pro Arg Ile Arg Ile Arg Ala Gly Ala Ser Arg Arg 145 150 155 160		
Ala Ser Pro Gly Thr Arg Gly Ala Pro Gly Ala Pro Pro Trp Pro Gly 165 170 175		
Ser Gln Ser Ser Pro Ala Ser Ala Ser Ser Arg Ser Ala Cys Ser Ala 180 185 190		
Thr Val Ala Tyr Pro Ala Met Ser Cys Gln Val Ser Cys Cys Ser Gly 195 200 205		
Arg Pro Glu Ile Arg Arg Leu Ile Leu Val Ala Ile Trp Ser Arg Ala 210 215 220		
Ser Ala Ser Thr Gly Leu Ser Thr Trp Asn Arg Ser Val Leu Arg Met 225 230 235 240		
Ala Pro Leu Ile Arg Trp Ala Arg Ala His Cys Ser Arg Ala Gly Pro 245 250 255		
Tyr Trp Val Pro Leu Trp Leu Arg Val Arg Ser Arg Ala Phe Gly Ile 260 265 270		
Val Gly Gly Ile Ala Leu Cys Tyr Gly Ser Thr Ala Ser Thr Pro His 275 280 285		
Pro Gly Val Arg Arg Pro Ala Leu Pro Arg His Arg Trp Glu Val Pro 290 295 300		
Pro Pro His Ser Pro Gly Gly Asn Pro Pro Gly Ala Pro Asp Pro Ser 305 310 315 320		
Leu Ala Asp Ser Pro Gly Ala Gly Ala Pro Gly His Arg Pro Val Arg 325 330 335		
Gln Thr Gly Ser Gly Pro Val Arg Pro Leu Gln Pro Ala Pro Gly Arg 340 345 350		

Ile Asp Arg Pro Val Leu His Pro Ala Thr Arg Arg His Leu Pro Asp
 355 360 365

Val Arg Arg Pro Ala Pro Gly Gly Gly His Arg Pro Ala Ala Phe Arg
 370 375 380

Arg Ala Leu His Pro Gln Leu Leu
 385 390

<210> 94

<211> 70

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 7114 right: 7323 frame: 2 size(aa): 70

<400> 94

Pro Pro Pro Gly Ala Gly Arg Arg Thr Ser Gly Arg Cys Arg Arg Val
 1 5 10 15

Ala Gly Cys Ser Thr Gly Arg Ser Met Arg Pro Gly Ala Gly Cys Arg
 20 25 30

Gly Arg Thr Gly Pro Glu Pro Val Cys Arg Thr Gly Arg Trp Pro Gly
 35 40 45

Ala Pro Ala Pro Gly Glu Ser Ala Arg Leu Gly Ser Gly Ala Pro Gly
 50 55 60

Gly Phe Pro Pro Gly Glu
 65 70

<210> 95

<211> 96

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 7275 right: 7562 frame: 1 size(aa): 96

<400> 95

Val Ser Gln Ala Trp Ile Arg Arg Pro Arg Arg Ile Ser Ser Arg Arg
 1 5 10 15

Val Arg Arg Gly Tyr Phe Pro Ala Met Ser Arg Lys Gly Arg Ser Ser
 20 25 30

Asp Thr Arg Val Gly Arg Gly Gly Cys Ala Thr Ile Ala Gln Arg Tyr
 35 40 45

Ala Thr His Asn Ala Glu Cys Pro Arg Thr Asp Pro Gln Pro Glu Gly
 50 55 60

His Pro Val Arg Pro Ser Pro Gly Ala Val Gly Pro Arg Pro Ala Asp
65 70 75 80

Gln Gly Cys His Ala Gln His Arg Ala Ile Pro Arg Ala Glu Pro Gly
85 90 95

<210> 96

<211> 60

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 7373 right: 7552 frame: 3 size(aa): 60

<400> 96

His Gln Gly Gly Ala Trp Arg Leu Cys Tyr His Ser Thr Ala Leu Cys
1 5 10 15

His Pro Gln Cys Arg Met Pro Ser Asn Gly Pro Ser Thr Arg Gly Ala
20 25 30

Pro Ser Thr Ala Gln Pro Gly Ser Ser Gly Pro Ser Pro Ser Gly Ser
35 40 45

Arg Val Pro Cys Ala Ala Pro Ser Asp Ser Thr Cys
50 55 60

<210> 97

<211> 268

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 7402 right: 8205 frame: -2 size(aa): 268

<400> 97

Cys Arg Leu Val Ser Cys Leu Pro Val Leu Tyr Ser Gln His Ser Thr
1 5 10 15

Gln Ile His Arg Thr His Pro Thr Pro Gly Ala Asp Leu Glu Pro Val
20 25 30

Ala Leu Ala Glu Ser Asp Leu Leu Asp Asp Ala Asp Gln Leu Pro Val
35 40 45

Lys Gln Asp Pro Pro Leu Leu Gly Pro Gly Arg Thr Arg Trp Gly Val
50 55 60

Ala Gln Gly Ala Arg Met Leu Gln Val Gln Val Val Ala Pro Gly Leu
65 70 75 80

Gln Val Leu Asp Arg Asp Gly Ala Arg Glu Glu Arg Arg His Arg Leu
85 90 95

Gly Asp Gly Ala His Glu Arg Val Tyr Asp His Leu His Arg Ala Leu

100					105					110					
Arg	Leu	Ala	Ala	Leu	Ala	Ala	Ser	Ala	Arg	Ala	Ala	Ala	Ala	Ser	Ala
	115						120					125			
Trp	Arg	Arg	Arg	His	Leu	Ala	Ala	Ser	Asp	Ser	Tyr	Pro	Gly	Arg	Arg
	130					135					140				
Ile	Ser	Ala	Ser	Val	Ser	Arg	Tyr	Pro	Gly	Gly	Ser	Gly	Ser	Pro	Ala
	145					150					155				160
Leu	Ala	Arg	Ile	Ser	Val	Gln	Ser	Cys	Ile	Gly	Leu	Leu	Ala	Gln	Arg
				165					170					175	
Leu	Leu	Gly	His	Gly	Gly	Ile	Pro	Gly	Asp	Val	Val	Pro	Gly	Val	Val
			180					185					190		
Leu	Leu	Gly	Gln	Ala	Arg	Asp	Gln	Ala	Ala	Asn	Leu	Gly	Gly	Asp	Leu
		195					200					205			
Val	Gln	Gly	Leu	Gly	Leu	Asn	Arg	Ala	Gln	His	Val	Glu	Ser	Leu	Gly
	210					215					220				
Ala	Ala	His	Gly	Thr	Leu	Asp	Pro	Leu	Gly	Glu	Gly	Pro	Leu	Leu	Pro
	225					230					235				240
Gly	Trp	Ala	Val	Leu	Gly	Ala	Pro	Leu	Val	Glu	Gly	Pro	Phe	Glu	Gly
			245						250					255	
Ile	Arg	His	Cys	Gly	Trp	His	Ser	Ala	Val	Leu	Trp				
			260					265							

<210> 98

<211> 101

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 7408 right: 7710 frame: 2 size(aa): 101

<400> 98

His	Ser	Ala	Met	Pro	Pro	Thr	Met	Pro	Asn	Ala	Leu	Glu	Arg	Thr	Leu
1				5					10					15	
Asn	Gln	Arg	Gly	Thr	Gln	Tyr	Gly	Pro	Ala	Arg	Glu	Gln	Trp	Ala	Leu
			20					25					30		
Ala	Gln	Arg	Ile	Lys	Gly	Ala	Met	Arg	Ser	Thr	Glu	Arg	Phe	His	Val
			35				40					45			
Leu	Ser	Pro	Val	Glu	Ala	Glu	Ala	Leu	Asp	Gln	Ile	Ala	Thr	Lys	Ile
			50			55					60				
Ser	Arg	Leu	Ile	Ser	Gly	Leu	Pro	Glu	Gln	His	Asp	Thr	Trp	His	Asp
			65		70					75				80	
Ile	Ala	Gly	Tyr	Ala	Thr	Val	Ala	Glu	Gln	Ala	Leu	Arg	Glu	Glu	Ala
			85						90					95	

Asp Ala Gly Leu Asp
100

<210> 99

<211> 100

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 7601 right: 7900 frame: -3 size(aa): 100

<400> 99

Ala Arg Leu Arg Pro Pro Ser Ser Arg Pro Pro Leu Gly Arg Leu Gly
1 5 10 15

Arg Leu Cys Pro Gly Arg Cys Gly Leu Gly Leu Glu Thr Ala Pro Leu
20 25 30

Gly Arg Leu Gly Phe Val Ser Gly Pro Ala His Leu Gly Glu Arg Leu
35 40 45

Pro Val Pro Gly Gly Leu Arg Glu Pro Arg Pro Gly Gln Asp Leu Ser
50 55 60

Pro Val Leu His Arg Pro Pro Arg Ala Ala Pro Ala Arg Pro Arg Trp
65 70 75 80

His Thr Arg Arg Cys Arg Ala Arg Cys Arg Ala Ala Arg Ala Gly Gln
85 90 95

Arg Ser Gly Gly
100

<210> 100

<211> 153

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 7602 right: 8060 frame: 1 size(aa): 153

<400> 100

Pro Pro Asp Leu Trp Pro Ala Arg Ala Ala Arg His Leu Ala Arg His
1 5 10 15

Arg Arg Val Cys His Arg Gly Arg Ala Gly Ala Ala Arg Gly Gly Arg
20 25 30

Cys Arg Thr Gly Leu Arg Ser Trp Pro Gly Arg Gly Ser Arg Ser Pro
35 40 45

Pro Gly Thr Gly Arg Arg Ser Pro Arg Cys Ala Gly Pro Asp Thr Asn
50 55 60

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Pro Arg Arg Pro Ser Gly Ala Val Ser Arg Pro Arg Pro Gln Arg Pro
 65 70 75 80

Gly Gln Arg Arg Pro Arg Arg Pro Ser Gly Gly Arg Asp Glu Gly Gly
 85 90 95

Arg Arg Arg Ala His Gly Arg Arg Arg Pro Val Asp Val Gly Val Leu
 100 105 110

Leu Ala Pro Arg His Gly Pro Arg Leu Gly Gly Leu Gly Gln Pro Pro
 115 120 125

Val Pro Gly Ala Cys Gly Pro Pro Gly Arg Arg Pro Thr Gly Cys Gly
 130 135 140

Leu Val Pro Gly Val Ala Asp Pro Ala
 145 150

<210> 101
 <211> 90
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 7610 right: 7879 frame: 3 size(aa): 90

<400> 101

Ser Leu Ala Cys Pro Ser Ser Thr Thr Pro Gly Thr Thr Ser Pro Gly
 1 5 10 15

Met Pro Pro Trp Pro Ser Arg Arg Cys Ala Arg Arg Pro Met Gln Asp
 20 25 30

Trp Thr Glu Ile Leu Ala Arg Ala Gly Leu Pro Glu Pro Pro Gly Tyr
 35 40 45

Arg Glu Thr Leu Ala Glu Met Arg Arg Pro Gly Tyr Glu Ser Glu Ala
 50 55 60

Ala Lys Trp Arg Arg Leu Gln Ala Glu Ala Ala Ala Arg Ala Glu
 65 70 75 80

Ala Ala Lys Ala Ala Lys Arg Arg Ala Arg
 85 90

<210> 102
 <211> 159
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 7714 right: 8190 frame: 2 size(aa): 159

<400> 102

Asp Pro Gly Gln Gly Gly Ala Pro Gly Ala Pro Arg Val Pro Gly Asp

```

1           5           10           15
Ala Arg Arg Asp Ala Pro Ala Arg Ile Arg Ile Arg Gly Gly Gln Val
      20           25           30
Ala Pro Ser Pro Gly Arg Gly Arg Ser Gly Pro Gly Arg Gly Gly Gln
      35           40           45
Gly Gly Gln Ala Glu Gly Ala Met Lys Val Val Val Asp Ala Leu Met
      50           55           60
Gly Ala Val Ala Gln Ser Met Ser Ala Phe Phe Ser Arg Pro Val Thr
      65           70           75           80
Val Gln Asp Leu Glu Ala Trp Gly Asn His Leu Tyr Leu Glu His Ala
      85           90           95
Gly Pro Leu Gly Asp Ala Pro Pro Gly Ala Ala Trp Ser Gln Glu Trp
      100          105          110
Arg Ile Leu Leu Asp Gly Gln Leu Val Gly Val Val Gln Gln Val Ala
      115          120          125
Phe Arg Gln Gly Asp Arg Leu Gln Val Arg Ser Arg Gly Gly Val Arg
      130          135          140
Pro Met Tyr Leu Cys Ala Met Leu Gly Val Glu Asp Arg Lys Thr
      145          150          155

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<210> 103

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 7895 right: 8173 frame: 3 size(aa): 93

<400> 103

```

Thr Arg Ser Trp Ala Pro Ser Pro Ser Arg Cys Arg Arg Ser Ser Arg
1           5           10           15
Ala Pro Ser Arg Ser Lys Thr Trp Arg Pro Gly Ala Thr Thr Cys Thr
      20           25           30
Trp Ser Met Arg Ala Pro Trp Ala Thr Pro His Arg Val Arg Pro Gly
      35           40           45
Pro Arg Ser Gly Gly Ser Cys Leu Thr Gly Ser Trp Ser Ala Ser Ser
      50           55           60
Ser Arg Ser Leu Ser Ala Arg Ala Thr Gly Ser Arg Ser Ala Pro Gly
      65           70           75           80
Val Gly Cys Val Arg Cys Ile Cys Val Leu Cys Trp Glu
      85           90

```

<210> 104

<211> 70

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7952 right: 8161 frame: -3 size(aa): 70

<400> 104

His Thr Asp Thr Ser Asp Ala Pro His Pro Gly Ser Gly Pro Gly Ala
1 5 10 15

Gly Arg Pro Gly Gly Lys Arg Pro Ala Gly Arg Arg Arg Pro Ala Ala
20 25 30

Arg Gln Ala Gly Ser Ala Thr Pro Gly Thr Arg Pro His Pro Val Gly
35 40 45

Arg Arg Pro Gly Gly Pro His Ala Pro Gly Thr Gly Gly Cys Pro Arg
50 55 60

Pro Pro Ser Leu Gly Pro
65 70

<210> 105
<211> 100
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8064 right: 8363 frame: 1 size(aa): 100

<400> 105

Arg Ala Ala Gly Arg Arg Arg Pro Ala Gly Arg Phe Pro Pro Gly Arg
1 5 10 15

Pro Ala Pro Gly Pro Leu Pro Gly Trp Gly Ala Ser Asp Val Ser Val
20 25 30

Cys Tyr Ala Gly Ser Arg Gly Pro Glu Asp Met Lys Arg Asp Asp Ile
35 40 45

Lys Gly Ala Pro Leu Ile Leu Ala Thr Gly Arg Gly Leu Pro Pro Asp
50 55 60

Pro Asn Glu Pro Pro Lys Gly Asp Leu Ala Ala Trp Ala Ala Tyr His
65 70 75 80

Gly Ile Glu Tyr Val Asn Arg Ala Glu Glu Pro Pro Ala Pro Gly Glu
85 90 95

Glu Pro Arg Gly
100

<210> 106
<211> 70
<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 8177 right: 8386 frame: 3 size(aa): 70

<400> 106

Arg Thr Gly Arg His Glu Thr Arg Arg His Gln Gly Arg Thr Ala Asp
1 5 10 15

Pro Gly His Arg Thr Arg Ser Thr Pro Arg Pro Glu Arg Ala Ala Gln
20 25 30

Gly Arg Pro Gly Arg Leu Gly Arg Leu Pro Arg His Arg Val Arg Gln
35 40 45

Pro Gly Gly Gly Ala Thr Gly Thr Trp Arg Arg Thr Thr Arg Val Asn
50 55 60

Ala Pro Ser Ala Leu Gly
65 70

<210> 107

<211> 89

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 8224 right: 8490 frame: 2 size(aa): 89

<400> 107

Ser Trp Pro Gln Asp Ala Val Tyr Pro Pro Thr Arg Thr Ser Arg Pro
1 5 10 15

Arg Ala Thr Trp Pro Pro Gly Pro Pro Thr Thr Ala Ser Ser Thr Ser
20 25 30

Thr Gly Arg Arg Ser His Arg His Leu Ala Lys Asn His Ala Gly Glu
35 40 45

Arg Ala Leu Ser Leu Gly Leu Ile Pro Thr Cys Ala Leu Gly Arg Gly
50 55 60

Gly Pro Phe Leu Asp Ala Asp His Leu Val Ala Asp Pro Leu Arg His
65 70 75 80

Glu His Leu Glu Leu Val Val Glu Leu
85

<210> 108

<211> 95

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 8247 right: 8531 frame: -1 size(aa): 95

<400> 108

```

Ser Arg Thr Thr Ser Thr Ala Ser Pro Ser Pro Ala Cys Gln Ser Ser
1          5          10          15

Thr Thr Ser Ser Arg Cys Ser Cys Arg Arg Gly Ser Ala Thr Arg Trp
          20          25          30

Ser Ala Ser Arg Lys Gly Pro Pro Arg Pro Arg Ala Gln Val Gly Ile
          35          40          45

Ser Pro Arg Leu Arg Ala Arg Ser Pro Ala Trp Phe Phe Ala Arg Cys
          50          55          60

Arg Trp Leu Leu Arg Pro Val Asp Val Leu Asp Ala Val Val Gly Gly
65          70          75          80

Pro Gly Gly Gln Val Ala Leu Gly Arg Leu Val Arg Val Gly Gly
          85          90          95

```

<210> 109

<211> 656

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 8320 right: 10287 frame: -2 size(aa): 656

<400> 109

```

Ala Gly Ser Ser Arg Pro Thr Ser Arg Pro Pro Ala Ala Ser Ser Arg
1          5          10          15

Ser Ser Arg Arg Cys Pro Pro Ala Gly Ser Ser Gly Ser Ala Pro Glu
          20          25          30

Pro Asp Ala Arg Arg His Pro Gly Pro Gly Gly Arg Arg Arg Arg Pro
          35          40          45

Asp Arg Arg Arg Ala Ala Pro Gly Pro Gly Pro Gly Val Leu Arg Gly
50          55          60

Ala Gly Ala Gly Arg His Leu Pro Ala Gly Arg Arg Gly Asp Pro Gly
65          70          75          80

Gly Arg Cys Gly Val Asp Gly Leu Ser Val Gly Val Gly Gly Val Thr
          85          90          95

Val Thr Pro Gln Gln Leu Val Ala Val Ala Arg Asp Thr Gly Phe Arg
          100          105          110

Thr Phe Pro Gly Leu Leu Arg Lys Ala Ser Gly Gln Pro Tyr Thr Ile
          115          120          125

Gly Thr Ala Thr Ala Ala Phe Gln Gln Gly Gln Thr Lys Leu Ile Glu
130          135          140

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Ala Arg Leu Arg Glu Gly Phe Leu Leu Ser Lys Ser Asn Ser Glu Ile
145 150 155 160

Val Ala Asp Val Arg Thr Ala Met Ala Thr Ala Asn Arg Arg Gln Val
165 170 175

Glu Ala Leu Val Arg Thr Ser Met Ala Gln Ala Ser Gln Thr Ala His
180 185 190

Asp Ala Phe Asn Glu Ala Asn Glu Asp Val Leu Gly Asp Lys Asp Gly
195 200 205

Asn Arg Tyr Ile Trp Asp Ala Ser Asn Asp Gly Arg Leu Cys Pro Val
210 215 220

Cys Ala Pro Leu Asp Gly Thr Arg Tyr Lys Glu Arg Lys Lys Ala Pro
225 230 235 240

Trp Pro Ala His Trp Asn Glu Arg Cys Arg Ile Leu Pro Leu Thr Pro
245 250 255

Leu Ser Asp Thr Leu Gly Ala Leu Pro Glu Thr Tyr Leu Glu Gln Val
260 265 270

Pro Val Gln Tyr Asp Ala Lys Gly Lys Arg Leu Pro Pro Pro Ala Gly
275 280 285

Trp Thr Gly Glu Ala Ala Tyr Lys Thr Pro Arg Lys Ile Asn Gly Gln
290 295 300

Gln Tyr Trp Val Arg Arg Arg Asp Asn Pro Gly Gly Thr Val Gly Ala
305 310 315 320

Met Leu Gln Arg Ser Asn Asp Glu Thr Ala Gln Ala Val Leu Gly Thr
325 330 335

Lys Ala Arg Leu Ala Arg Phe Arg Lys Leu Thr Gly Pro Lys Gly Lys
340 345 350

Tyr Val Lys Asp Pro Gln Gly Ala Val Val Glu Leu Leu Arg Pro Gly
355 360 365

Ser Val Lys Lys Pro Ala Pro Pro Pro Lys Pro Lys Pro Lys Pro Lys
370 375 380

Ala Pro Lys Pro Val Val Ala Pro Pro Leu Val Gln Pro Ala Pro Val
385 390 395 400

Ala Pro Pro Pro Ala Pro Ala Pro Pro Val Val Thr Arg Ala Pro Arg
405 410 415

Arg Ala Arg Pro Ala Pro Ala Pro Ala Pro Ala Pro Pro Ala Pro Pro
420 425 430

Arg Leu Tyr Ser Glu Val Arg Ala Arg Arg Asn Ser Asp Thr Thr Thr
435 440 445

Asp Ile Lys His Lys Tyr Arg Thr Lys His Arg Ala Val Val Arg Asp
450 455 460

Trp Thr Gly Ser Gly Tyr Thr Glu Ile Arg Thr Ala Gln Val Lys Ala
 465 470 475 480
 Ala Gln Ala Arg Gly Met Asp Leu Thr Asp Phe Gly Lys Gln Met Ala
 485 490 495
 Arg Lys Gln Met Ser Asp Asp Arg Leu Ala Asp Leu Leu Asp Lys Ala
 500 505 510
 Asp Arg Leu Glu Asp Phe Ile Thr Thr Ala Pro Val Tyr Lys Gly Gly
 515 520 525
 Pro Thr Tyr Arg Gly Met Arg Tyr His Ser Lys Ala Ala Ile Glu Glu
 530 535 540
 Asp Ile Arg Arg Ile Arg Ala Gly Glu Pro Ser Ile Thr Leu Glu Ser
 545 550 555 560
 Trp Thr Thr Asp Glu Ser Val Ser Tyr Arg Phe Asn Ala Leu Tyr Arg
 565 570 575
 Lys Asp Arg Tyr Ser Val Thr Tyr Val Val Glu Asp Asn Leu His Gly
 580 585 590
 Val Pro Ile Ser Ser Met Ser Lys Phe Asp Asp Glu Leu Glu Val Leu
 595 600 605
 Met Pro Glu Gly Val Arg Tyr Glu Val Val Arg Ile Glu Glu Gly Ala
 610 615 620
 Thr Pro Ala Lys Ser Ala Gly Gly Tyr Gln Pro Lys Ala Glu Gly Ala
 625 630 635 640
 Phe Thr Arg Val Val Leu Arg Gln Val Pro Val Ala Pro Pro Pro Gly
 645 650 655

<210> 110

<211> 144

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 8378 right: 8809 frame: -3 size(aa): 144

<400> 110

Ala Asp Gly Gln Glu Ala Asp Val Arg Arg Pro Ala Gly Arg Pro Thr
 1 5 10 15
 Arg Gln Gly Arg Pro Ala Arg Gly Leu His His Asp Gly Ala Arg Leu
 20 25 30
 Gln Arg Arg Pro Asp Leu Pro Gly His Ala Leu Pro Gln Gln Ser Gly
 35 40 45
 His Arg Gly Gly His Pro Pro His Pro Ser Arg Gly Ala Val Asp His
 50 55 60
 Ala Gly Lys Leu Asp His Arg Arg Val Gly Val Leu Pro Val Gln Arg

65					70					75					80
. Pro Val Pro Gln Gly	Pro Val Leu Gly	Asp Ile Arg Ser Arg Gly Gln													
	85	90												95	
. Pro Pro Arg Arg Pro His Leu Gln His	Val Lys Val Arg Arg Arg Ala														
	100	105												110	
. Arg Gly Ala His Ala Gly Gly Gly Pro Leu Arg Gly Gly	Pro His Arg														
	115	120											125		
. Gly Arg Gly His Pro Gly Gln Glu Arg Arg Trp Val Ser Ala Gln Gly															
	130	135										140			

<210>	111
<211>	90
<212>	PRT
<213>	Cyanophage S-2L

```
<220>
<221> misc_feature
<223> New ORF = left: 8494 right: 8763 frame: 2 size(aa): 90
```

<400> 111

His	Ala	Gly	Asp	Gly	Asp	Ala	Val	Glu	Val	Val	Leu	Asp	Tyr	Val	Cys
1				5					10					15	
His	Arg	Val	Pro	Val	Leu	Ala	Val	Gln	Gly	Val	Glu	Pro	Val	Gly	His
			20					25					30		
Arg	Leu	Val	Gly	Gly	Pro	Ala	Phe	Gln	Arg	Asp	Arg	Arg	Leu	Pro	Gly
		35					40					45			
Ser	Asp	Ala	Ala	Asp	Val	Leu	Leu	Asp	Gly	Arg	Phe	Ala	Val	Val	Ala
	50					55					60				
His	Ala	Pro	Val	Gly	Arg	Ala	Ala	Phe	Val	Asp	Gly	Arg	Arg	Arg	Asp
65					70					75					80
Glu	Val	Leu	Glu	Pro	Val	Gly	Leu	Val	Glu						
				85					90						

<210>	112
<211>	93
<212>	PRT
<213>	Cyanophage S-2L

```
<220>
<221> misc_feature
<223> New ORF = left: 8544 right: 8822 frame: -1 size(aa): 93
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<400> 112

Pro	Ile	Leu	Val	Ser	Arg	Trp	Pro	Gly	Ser	Arg	Cys	Pro	Thr	Thr	Gly
1				5					10					15	
Trp	Gln	Thr	Tyr	Ser	Thr	Arg	Pro	Thr	Gly	Ser	Arg	Thr	Ser	Ser	Arg
			20					25					30		

Arg Arg Pro Ser Thr Lys Ala Ala Arg Pro Thr Gly Ala Cys Ala Thr
35 40 45
Thr Ala Lys Arg Pro Ser Arg Arg Thr Ser Ala Ala Ser Glu Pro Gly
50 55 60
Ser Arg Arg Ser Arg Trp Lys Ala Gly Pro Pro Thr Ser Arg Cys Pro
65 70 75 80
Thr Gly Ser Thr Pro Cys Thr Ala Arg Thr Gly Thr Arg
85 90

<210> 113

<211> 54

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 8717 right: 8878 frame: 3 size(aa): 54

<400> 113

Thr Gly Ala Val Val Met Lys Ser Ser Ser Arg Ser Ala Leu Ser Ser
1 5 10 15
Arg Ser Ala Ser Arg Ser Ser Asp Ile Cys Phe Leu Ala Ile Cys Leu
20 25 30
Pro Lys Ser Val Arg Ser Met Pro Arg Ala Trp Ala Ala Phe Thr Trp
35 40 45
Ala Val Arg Ile Ser Val
50

<210> 114

<211> 67

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 8736 right: 8936 frame: 1 size(aa): 67

<400> 114

Ser Pro Arg Ala Gly Arg Pro Cys Arg Val Gly Leu Pro Ala Gly Arg
1 5 10 15
Arg Thr Ser Ala Ser Trp Pro Ser Ala Tyr Gln Asn Arg Ser Asp Pro
20 25 30
Cys Pro Gly Pro Gly Arg Pro Ser Pro Gly Arg Cys Gly Ser Arg Cys
35 40 45
Asn Gln Ser Arg Ser Ser Arg Ala Arg Arg Pro Gly Ala Trp Cys Gly
50 55 60

Thr Cys Ala
65

<210> 115
<211> 436
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8767 right: 10074 frame: 2 size(aa): 436

<400> 115

Val Cys Gln Pro Val Val Gly His Leu Leu Pro Gly His Leu Leu Thr
1 5 10 15

Lys Ile Gly Gln Ile His Ala Pro Gly Leu Gly Gly Leu His Leu Gly
20 25 30

Gly Ala Asp Leu Gly Val Thr Arg Ala Gly Pro Val Ala His Asp Gly
35 40 45

Pro Val Leu Gly Ala Val Leu Val Leu Asp Val Gly Cys Gly Val Ala
50 55 60

Ile Thr Thr Gly Thr His Leu Arg Ile Gln Pro Gly Arg Cys Arg Arg
65 70 75 80

Cys Gly Gly Arg Gly Trp Gly Arg Ala Gly Thr Thr Trp Arg Pro Gly
85 90 95

Asp His Gly Arg Gly Arg Ser Arg Arg Arg Gly His Trp Cys Gly Leu
100 105 110

Asp Gln Trp Arg Gly His Asp Gly Leu Arg Ser Leu Gly Leu Arg Leu
115 120 125

Gly Leu Arg Arg Arg Gly Gly Leu Leu Asp Thr Ala Gly Pro Gln Glu
130 135 140

Leu Asp His Gly Pro Leu Gly Ile Leu Asp Val Leu Ala Leu Gly Ala
145 150 155 160

Gly Gln Leu Pro Glu Pro Gly Gln Ala Gly Leu Gly Ala Glu His Arg
165 170 175

Leu Gly Gly Phe Val Val Gly Pro Leu Gln His Arg Pro Asp Gly Ala
180 185 190

Pro Gly Val Val Pro Ala Pro Asp Pro Ile Leu Leu Ala Val Asp Leu
195 200 205

Thr Gly Arg Leu Val Gly Gly Leu Pro Gly Pro Ala Gly Arg Arg Gly
210 215 220

Gln Ser Phe Ala Leu Gly Val Val Leu His Arg His Leu Phe Glu Val
225 230 235 240

Gly Leu Arg Gln Gly Ala Gln Gly Val Ala Gln Arg Gly Glu Arg Gln

245 250 255
 Asp Pro Ala Pro Leu Val Pro Val Gly Arg Pro Gly Gly Leu Leu Ala
 260 265 270
 Leu Leu Val Pro Gly Ala Val Glu Arg Gly Ala His Arg Ala Glu Pro
 275 280 285
 Ala Val Val Ala Gly Val Pro Asp Val Ala Val Ala Val Leu Val Ser
 290 295 300
 Gln Asp Val Leu Val Gly Leu Val Glu Cys Val Met Arg Arg Leu Ala
 305 310 315 320
 Gly Leu Gly His Arg Arg Thr Asp Gln Gly Phe His Leu Pro Ala Val
 325 330 335
 Gly Arg Gly His Arg Arg Pro Asp Val Gly Asp Asp Leu Gly Val Gly
 340 345 350
 Phe Gly Gln Glu Glu Ala Leu Pro Glu Pro Gly Leu Asp Gln Leu Arg
 355 360 365
 Leu Pro Leu Leu Glu Cys Ser Gly Arg Arg Ala Asp Gly Val Gly Leu
 370 375 380
 Ala Arg Arg Leu Pro Glu Glu Pro Arg Glu Cys Pro Glu Ala Arg Ile
 385 390 395 400
 Pro Gly Asp Gly His Gln Leu Leu Arg Gly Asp Arg Asp Ala Pro Asp
 405 410 415
 Ala His Arg Glu Ala Val Asp Ala Ala Thr Ala Thr Gly Val Ala Pro
 420 425 430
 Thr Ala Arg Arg
 435

<210> 116

<211> 131

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 8856 right: 9248 frame: -1 size(aa): 131

<400> 116

Pro Ala Pro Arg Ala Ser Thr Ser Arg Ile Pro Arg Gly Pro Trp Ser
 1 5 10 15
 Ser Ser Cys Gly Pro Ala Val Ser Arg Ser Pro Pro Arg Leu Arg Ser
 20 25 30
 Pro Ser Arg Ser Pro Arg Leu Arg Ser Pro Ser Trp Pro Leu His Trp
 35 40 45
 Ser Ser Pro His Gln Trp Pro Arg Arg Arg Leu Arg Pro Leu Pro Trp
 50 55 60

Ser Pro Gly Arg His Val Val Pro Ala Arg Pro Gln Pro Arg Pro Pro
65 70 75 80

His Arg Arg His Arg Pro Gly Cys Ile Leu Arg Cys Val Pro Val Val
85 90 95

Ile Ala Thr Pro Gln Pro Thr Ser Ser Thr Ser Thr Ala Pro Ser Thr
100 105 110

Gly Pro Ser Cys Ala Thr Gly Pro Ala Leu Val Thr Pro Arg Ser Ala
115 120 125

Pro Pro Arg
130

<210> 117

<211> 174

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 8882 right: 9403 frame: 3 size(aa): 174

<400> 117

Pro Glu Pro Val Gln Ser Arg Thr Thr Ala Arg Cys Leu Val Arg Tyr
1 5 10 15

Leu Cys Leu Met Ser Val Val Val Ser Leu Leu Arg Arg Ala Arg Thr
20 25 30

Ser Glu Tyr Ser Leu Gly Gly Ala Gly Gly Ala Gly Ala Gly Ala Gly
35 40 45

Ala Gly Arg Ala Arg Arg Gly Ala Arg Val Thr Thr Gly Gly Ala Gly
50 55 60

Ala Gly Gly Gly Ala Thr Gly Ala Gly Trp Thr Asn Gly Gly Ala Thr
65 70 75 80

Thr Gly Phe Gly Ala Leu Gly Phe Gly Leu Gly Phe Gly Gly Gly Ala
85 90 95

Gly Phe Leu Thr Leu Pro Gly Arg Arg Ser Ser Thr Thr Ala Pro Trp
100 105 110

Gly Ser Leu Thr Tyr Leu Pro Leu Gly Pro Val Ser Phe Arg Asn Arg
115 120 125

Ala Arg Arg Ala Leu Val Pro Ser Thr Ala Trp Ala Val Ser Ser Leu
130 135 140

Asp Arg Cys Ser Ile Ala Pro Thr Val Pro Pro Gly Leu Ser Arg Arg
145 150 155 160

Arg Thr Gln Tyr Cys Trp Pro Leu Ile Leu Arg Gly Val Leu
165 170

<210> 118
 <211> 136
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 8981 right: 9388 frame: -3 size(aa): 136

<400> 118

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Asp Gln Arg Pro Ala Val Leu Gly Pro Ala Pro Gly Gln Pro Arg Gly
1          5          10          15

His Arg Arg Gly Asp Ala Ala Ala Val Gln Arg Arg Asn Arg Pro Gly
          20          25          30

Gly Ala Arg His Gln Gly Pro Pro Gly Pro Val Pro Glu Ala Asp Arg
          35          40          45

Pro Gln Gly Gln Val Arg Gln Gly Ser Pro Gly Gly Arg Gly Arg Ala
          50          55          60

Pro Ala Ala Arg Gln Cys Gln Glu Ala Arg Pro Ala Ser Glu Ala Gln
65          70          75          80

Ala Glu Ala Gln Gly Ser Glu Ala Arg Arg Gly Pro Ser Ile Gly Pro
          85          90          95

Ala Arg Thr Ser Gly Pro Ala Ala Gly Ser Gly Pro Ser Arg Gly His
          100          105          110

Pro Gly Ala Thr Ser Cys Pro Pro Gly Pro Ser Pro Gly Pro Arg Thr
          115          120          125

Ala Gly Thr Ala Gln Ala Val Phe
          130          135

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<210> 119
 <211> 52
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 9228 right: 9383 frame: 1 size(aa): 52

<400> 119

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Arg Thr Cys Pro Trp Gly Arg Ser Ala Ser Gly Thr Gly Pro Gly Gly
1          5          10          15

Pro Trp Cys Arg Ala Pro Pro Gly Arg Phe Arg Arg Trp Thr Ala Ala
          20          25          30

Ala Ser Pro Arg Arg Cys Pro Arg Gly Cys Pro Gly Ala Gly Pro Asn
          35          40          45

Thr Ala Gly Arg

```

50

<210> 120

<211> 88

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 9252 right: 9515 frame: -1 size(aa): 88

<400> 120

Ala Thr Pro Trp Ala Pro Cys Arg Arg Pro Thr Ser Asn Arg Cys Arg
1 5 10 15

Cys Ser Thr Thr Pro Arg Ala Asn Asp Cys Pro Arg Arg Pro Ala Gly
20 25 30

Pro Gly Arg Pro Pro Thr Arg Arg Pro Val Arg Ser Thr Ala Ser Ser
35 40 45

Ile Gly Ser Gly Ala Gly Thr Thr Pro Gly Ala Pro Ser Gly Arg Cys
50 55 60

Cys Ser Gly Pro Thr Thr Lys Pro Pro Arg Arg Cys Ser Ala Pro Arg
65 70 75 80

Pro Ala Trp Pro Gly Ser Gly Ser
85

<210> 121

<211> 106

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 9392 right: 9709 frame: -3 size(aa): 106

<400> 121

Arg Ile Gln Arg Gly Gln Arg Gly Arg Pro Gly Arg Gln Gly Arg Gln
1 5 10 15

Pro Leu His Leu Gly Arg Gln Gln Arg Arg Pro Ala Leu Pro Gly Val
20 25 30

Arg Pro Ala Arg Arg His Gln Val Gln Gly Ala Gln Glu Gly Pro Leu
35 40 45

Ala Gly Pro Leu Glu Arg Ala Val Pro Asp Pro Ala Ala His Pro Ala
50 55 60

Glu Arg His Pro Gly Arg Pro Ala Gly Asp Leu Pro Arg Thr Gly Ala
65 70 75 80

Gly Ala Val Arg Arg Gln Gly Gln Thr Thr Ala Pro Ala Gly Arg Leu
85 90 95

Asp Arg Gly Gly Arg Leu Gln Asp Ala Pro
100 105

<210> 122
<211> 56
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9488 right: 9655 frame: 3 size(aa): 56

<400> 122

Val Ser Gly Arg Ala Pro Arg Val Ser Leu Ser Gly Val Ser Gly Arg
1 5 10 15

Ile Arg His Arg Ser Phe Gln Trp Ala Gly Gln Gly Ala Phe Leu Arg
20 25 30

Ser Leu Tyr Leu Val Pro Ser Ser Gly Ala His Thr Gly Gln Ser Arg
35 40 45

Pro Ser Leu Leu Ala Ser Gln Met
50 55

<210> 123
<211> 114
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9519 right: 9860 frame: -1 size(aa): 114

<400> 123

Ser Arg Pro Gly Ser Gly Arg Ala Ser Ser Cys Pro Asn Pro Thr Pro
1 5 10 15

Arg Ser Ser Pro Thr Ser Gly Arg Arg Trp Pro Arg Pro Thr Ala Gly
20 25 30

Arg Trp Lys Pro Trp Ser Val Arg Arg Trp Pro Arg Pro Ala Arg Arg
35 40 45

Arg Met Thr His Ser Thr Arg Pro Thr Arg Thr Ser Trp Glu Thr Arg
50 55 60

Thr Ala Thr Ala Thr Ser Gly Thr Pro Ala Thr Thr Ala Gly Ser Ala
65 70 75 80

Arg Cys Ala Pro Arg Ser Thr Ala Pro Gly Thr Arg Ser Ala Arg Arg
85 90 95

Pro Pro Gly Arg Pro Thr Gly Thr Ser Gly Ala Gly Ser Cys Arg Ser
100 105 110

Pro Arg

<210> 124
<211> 58
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9528 right: 9701 frame: 1 size(aa): 58

<400> 124

Ala Ala Gly Ser Gly Thr Ala Arg Ser Ser Gly Pro Ala Arg Gly Pro
1 5 10 15

Ser Cys Ala Pro Cys Thr Trp Cys Arg Arg Ala Gly Arg Thr Pro Gly
20 25 30

Arg Ala Gly Arg Arg Cys Trp Arg Pro Arg Cys Ser Gly Cys Arg Pro
35 40 45

Cys Leu Pro Gly Arg Pro Arg Trp Pro Arg
50 55

<210> 125
<211> 84
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9659 right: 9910 frame: 3 size(aa): 84

<400> 125

Arg Leu Pro Ser Leu Ser Pro Arg Thr Ser Ser Leu Ala Ser Leu Asn
1 5 10 15

Ala Ser Cys Ala Val Trp Leu Ala Trp Ala Ile Asp Val Arg Thr Arg
20 25 30

Ala Ser Thr Cys Arg Arg Leu Ala Val Ala Ile Ala Val Arg Thr Ser
35 40 45

Ala Thr Ile Ser Glu Leu Asp Leu Asp Arg Arg Lys Pro Ser Arg Ser
50 55 60

Arg Ala Ser Ile Ser Phe Val Cys Pro Cys Trp Asn Ala Ala Val Ala
65 70 75 80

Val Pro Met Val

<210> 126
<211> 97
<212> PRT
<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 9705 right: 9995 frame: 1 size(aa): 97

<400> 126

Met Arg His Ala Pro Ser Gly Trp Pro Gly Pro Ser Thr Tyr Gly Pro
 1 5 10 15

Gly Leu Pro Pro Ala Gly Gly Trp Pro Trp Pro Ser Pro Ser Gly Arg
 20 25 30

Arg Arg Arg Ser Arg Ser Trp Ile Trp Thr Gly Gly Ser Pro Pro Gly
 35 40 45

Ala Gly Pro Arg Ser Ala Ser Ser Ala Pro Ala Gly Met Gln Arg Ser
 50 55 60

Pro Cys Arg Trp Cys Arg Ala Gly Pro Thr Pro Ser Gly Gly Ala Gln
 65 70 75 80

Gly Met Ser Gly Ser Pro Tyr Pro Gly Arg Arg Pro Pro Ala Ala Ala
 85 90 95

Gly

<210> 127

<211> 160

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 9713 right: 10192 frame: -3 size(aa): 160

<400> 127

Thr Arg Arg Ser Pro Ser Ser Arg Pro Arg Trp Pro Pro Ser Ala Thr
 1 5 10 15

Gly Ser Thr Pro Cys Cys Pro Arg Pro Arg Pro Arg Arg Ser Pro Arg
 20 25 30

Gly Trp Cys Arg Pro Thr Pro Thr Cys Gly Pro Ser Gly Arg Pro Arg
 35 40 45

Trp Pro Leu Arg Arg Arg Arg Pro Leu Gly Gly Arg Arg Gly Arg His
 50 55 60

Gly His Pro Ala Ala Ala Gly Gly Arg Arg Pro Gly Tyr Gly Leu Pro
 65 70 75 80

Asp Ile Pro Trp Ala Pro Pro Glu Gly Val Gly Pro Ala Leu His His
 85 90 95

Arg His Gly Asp Arg Cys Ile Pro Ala Gly Ala Asp Glu Ala Asp Arg
 100 105 110

Gly Pro Ala Pro Gly Gly Leu Pro Pro Val Gln Ile Gln Leu Arg Asp
 115 120 125

Arg Arg Arg Arg Pro Asp Gly Asp Gly His Gly Gln Pro Pro Ala Gly
 130 135 140

Gly Ser Pro Gly Pro Tyr Val Asp Gly Pro Gly Gln Pro Asp Gly Ala
 145 150 155 160

<210> 128

<211> 223

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 9864 right: 10532 frame: -1 size(aa): 223

<400> 128

Arg Ser Gly Arg Pro Ala Asn Gly Cys Pro Thr Ala Trp Thr Ser Arg
 1 5 10 15

Ser Ser Gly Thr Pro Ser Arg Ala Arg Arg Pro Arg Arg Pro Arg Arg
 20 25 30

Ser Ser Thr Arg Arg Pro Thr Pro Arg Ile Arg Arg Pro Thr Arg Lys
 35 40 45

Pro Thr Arg Arg Pro Thr Pro Arg Arg Leu Thr Ser Glu Ser Pro Gly
 50 55 60

Pro Gly Arg Pro Gly Pro Val Arg Pro Pro Gln Pro Leu Glu Ser Gly
 65 70 75 80

Ala Glu Pro Asp Pro Pro Asp Leu Arg Ala Gly His Pro Pro His Pro
 85 90 95

Arg Gly Ala Pro Asp Ala Ala Arg Arg Pro Ala Arg Ala Ala Val Arg
 100 105 110

Leu Asn Gln Thr Leu Ala Val Ile Gln Ala Gln Val Ala Ala Val Gly
 115 120 125

Asp Arg Ile Asp Ala Val Leu Pro Pro Ala Gln Ala Gln Ala Phe Ser
 130 135 140

Glu Gly Leu Val Gln Ala Asp Thr Tyr Leu Arg Ala Val Gly Ala Thr
 145 150 155 160

Pro Val Ala Val Ala Ala Ser Thr Ala Ser Arg Trp Ala Ser Gly Ala
 165 170 175

Ser Arg Ser Pro Arg Ser Ser Trp Trp Pro Ser Pro Gly Ile Arg Ala
 180 185 190

Ser Gly His Ser Leu Gly Ser Ser Gly Arg Arg Arg Ala Ser Pro Thr
 195 200 205

Pro Ser Ala Arg Arg Pro Leu His Ser Ser Arg Gly Arg Arg Ser
 210 215 220

<210> 129

<211> 87

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 9914 right: 10174 frame: 3 size(aa): 87

<400> 129

Gly Trp Pro Asp Ala Phe Arg Arg Ser Pro Gly Asn Val Arg Lys Pro
 1 5 10 15

Val Ser Arg Ala Thr Ala Thr Ser Cys Cys Gly Val Thr Val Thr Pro
 20 25 30

Pro Thr Pro Thr Glu Arg Pro Ser Thr Pro Gln Arg Pro Pro Gly Ser
 35 40 45

Pro Arg Arg Pro Ala Gly Arg Cys Arg Pro Ala Pro Ala Pro Arg Arg
 50 55 60

Thr Pro Gly Pro Gly Pro Gly Ala Ala Arg Arg Arg Ser Gly Arg Arg
 65 70 75 80

Arg Arg Pro Pro Gly Pro Gly
 85

<210> 130

<211> 88

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 10005 right: 10268 frame: 1 size(aa): 88

<400> 130

Arg Pro Arg Arg Pro Pro Arg Gly Arg Arg Arg Arg Asn Gly His Arg
 1 5 10 15

Gly Arg Pro Asp Gly Pro Gln Val Gly Val Gly Leu His Gln Pro Leu
 20 25 30

Gly Glu Arg Leu Gly Leu Gly Arg Gly Gln His Gly Val Asp Pro Val
 35 40 45

Ala Asp Gly Gly His Leu Gly Leu Asp Asp Gly Glu Arg Leu Val Gln
 50 55 60

Ala His Cys Arg Ser Ser Arg Pro Ala Gly Ser Val Trp Ser Ser Ser
 65 70 75 80

Arg Met Arg Arg Val Ala Cys Ser

85

<210> 131

<211> 522

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 10078 right: 11643 frame: 2 size(aa): 522

<400> 131

Val Ser Ala Cys Thr Ser Pro Ser Glu Asn Ala Trp Ala Trp Ala Gly
1 5 10 15

Gly Ser Thr Ala Ser Ile Arg Ser Pro Thr Ala Ala Thr Trp Ala Trp
20 25 30

Met Thr Ala Ser Val Trp Phe Arg Arg Thr Ala Ala Arg Ala Gly Arg
35 40 45

Arg Ala Ala Ser Gly Ala Pro Arg Gly Cys Gly Gly Trp Pro Ala Arg
50 55 60

Arg Ser Gly Gly Ser Gly Ser Ala Pro Asp Ser Arg Gly Cys Gly Gly
65 70 75 80

Arg Thr Gly Pro Gly Arg Pro Gly Pro Gly Asp Ser Leu Val Ser Leu
85 90 95

Arg Gly Val Gly Leu Arg Val Gly Phe Arg Val Gly Leu Arg Ile Arg
100 105 110

Gly Val Gly Leu Arg Val Glu Leu Leu Leu Gly Leu Leu Gly Leu Leu
115 120 125

Ala Leu Asp Gly Val Pro Glu Leu Leu Asp Val His Ala Val Gly Gln
130 135 140

Pro Phe Ala Gly Leu Pro Asp Arg Gln Glu Gly Leu Gln Val Asp Ala
145 150 155 160

Ala Ile Asp Val Arg Leu Glu Val Glu Leu Arg Leu Leu Leu Ser Gln
165 170 175

Leu Gly Val Val Glu Val Ala Val Asp Asp Asp Arg Gly Arg Leu Pro
180 185 190

Ala Gly Val Leu Pro Thr Pro Val His Asp Asp Leu Glu Arg Arg Gly
195 200 205

Gln Val Ser Gly Asp Asp Arg Glu His Ala Val Gly Phe Gly Pro Val
210 215 220

Lys Cys Leu Gly Pro Leu Gly Leu Leu Glu Gly Leu Leu Leu Gly Glu
225 230 235 240

Asp Arg Asp Ala Gln Leu Gly Asp Leu Leu Leu Glu His Leu Gln Phe
245 250 255

Phe Leu Val Arg Leu Ala Ala Gly Pro Gly Asp Leu Ala Ile Leu Gly
260 265 270

Ala Pro Thr Asp Gly Val Leu Gln Gly Ala Val Asp Arg Glu Pro Asp
275 280 285

Leu Ala Ile Gly Val Gly Arg Val Gln Val Val Gly Leu Leu Val Val
290 295 300

Val Ala Leu Pro Ala Asp His Val Lys Asp Gly Leu Ala Gly Asn Arg
305 310 315 320

Gln His Leu Gly Gln Val Ala Ala Pro Leu Glu Met Gly Gln Val Glu
325 330 335

Met Gly Ala Val Leu Glu Arg Gly Pro Ala Glu Gln His Pro Leu Leu
340 345 350

Leu Ala Val Gly Arg Gly Gln Gly Asp Leu Phe Glu Cys Gly Val Ala
355 360 365

Ala Leu Val Leu Asp Leu Leu Pro Gly Gly Ala Gly Gln Ala Gln His
370 375 380

Leu Val Gly Ala Arg Gly Gln His Pro Asp Leu Leu Leu Asp Val Asp
385 390 395 400

Pro Val Leu Ala Gly Gly His Leu Asp Val Leu Pro Asp Pro His Leu
405 410 415

Leu Glu Ala Gly Ala Leu Pro Gly Val Val Pro Ala Ala Asp Gly Gly
420 425 430

Pro Ala Gly His Leu His Gln Lys Trp Leu Val Pro Gly Gln Pro Leu
435 440 445

Val Glu Gln Ala Leu Ala Phe Leu Ala Gly Val Val Gly Gln Asp Arg
450 455 460

Ala Met Pro Val Arg Asp Gly Gln Pro Glu Arg Tyr Pro Gly Glu Val
465 470 475 480

Val Gln Gly Gly Ala Leu Thr Val His Val Phe Ala Pro Leu Leu Pro
485 490 495

Val Gly Leu Val Ala Pro Leu Gln Leu Asp Arg Leu Pro Glu Asp Gln
500 505 510

Ala Gly Ala Pro Arg Ile Arg Arg Ala Arg
515 520

<210> 132

<211> 134

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 10178 right: 10579 frame: 3 size(aa): 134

<400> 132

Arg Arg Ala Ser Gly Ser Gly Ala Leu Pro Leu Glu Pro Ala Gly Gly
1 5 10 15

Gln Arg Leu Glu Leu Leu Glu Asp Ala Ala Gly Gly Leu Leu Val Gly
20 25 30

Arg Glu Asp Pro Ala Gln Arg Leu Ile Arg Glu Ala Ala Glu Gly Glu
35 40 45

Leu Val Pro Asp Asp Gln Gly Leu Gly Ile His Ser Ser Val Ser Gly
50 55 60

Gly Ser Ala Ser Gly Ser Ala Ser Gly Ser Ala Ser Gly Ser Gly Val
65 70 75 80

Ser Ala Ser Gly Ser Ser Ser Ser Ser Val Ser Ser Ala Ser Ser Pro
85 90 95

Ser Met Val Ser Arg Ser Ser Ser Thr Ser Thr Leu Ser Gly Ser His
100 105 110

Ser Pro Val Cys Gln Thr Val Arg Lys Val Ser Arg Ser Met Pro Pro
115 120 125

Ser Met Tyr Ala Leu Arg
130

<210> 133

<211> 54

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 10196 right: 10357 frame: -3 size(aa): 54

<400> 133

Arg Val Asn Pro Gln Ala Leu Val Val Arg Asp Gln Phe Ala Leu Arg
1 5 10 15

Ser Leu Ser Asn Gln Ala Leu Ser Arg Ile Leu Pro Thr Tyr Glu Gln
20 25 30

Ala Thr Arg Arg Ile Leu Glu Glu Leu Gln Thr Leu Pro Ala Gly Arg
35 40 45

Leu Glu Arg Gln Cys Ala
50

<210> 134

<211> 92

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 10299 right: 10574 frame: 1 size(aa): 92

<400> 134

Phe Glu Arg Leu Arg Arg Ala Asn Trp Ser Arg Thr Thr Arg Ala Trp
1 5 10 15

Gly Phe Thr Arg Gln Ser Pro Gly Gly Arg Pro Pro Gly Arg Leu Pro
20 25 30

Gly Arg Pro Pro Asp Pro Gly Cys Arg Pro Pro Gly Arg Ala Pro Pro
35 40 45

Arg Ser Pro Arg Pro Pro Arg Pro Arg Trp Cys Pro Gly Ala Pro Arg
50 55 60

Arg Pro Arg Cys Arg Ala Ala Ile Arg Arg Ser Ala Arg Pro Ser Gly
65 70 75 80

Arg Ser Pro Gly Arg Cys Arg His Arg Cys Thr Pro
85 90

<210> 135

<211> 445

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 10354 right: 11688 frame: -2 size(aa): 445

<400> 135

Thr Ala Val His Arg Ala Gly Leu Pro Gly Gly Val His Pro Leu Pro
1 5 10 15

Gly Pro Pro Asp Pro Gly Gly Ala Gly Leu Ile Leu Arg Lys Pro Ile
20 25 30

Gln Leu Gln Gly Gly Asp Glu Ala Tyr Trp Glu Glu Trp Arg Lys Asp
35 40 45

Val Asp Arg Gln Gly Ser Ser Leu Asp Asp Phe Ala Arg Val Thr Leu
50 55 60

Gly Leu Ala Ile Ser Tyr Gly His Ser Ser Val Leu Ala Asp Tyr Thr
65 70 75 80

Ser Glu Glu Arg Gln Ser Leu Leu Asp Gln Arg Leu Ala Gly Asp Lys
85 90 95

Pro Phe Leu Val Gln Val Pro Cys Trp Ala Thr Ile Gly Arg Arg His
100 105 110

Asn Pro Arg Glu Gly Ser Gly Leu Gln Gln Val Arg Ile Arg Glu Tyr
115 120 125

Val Glu Val Pro Ala Gly Lys Tyr Gly Val Asn Val Glu Glu Gln Ile
130 135 140

Arg Val Leu Thr Pro Gly Ala Tyr Glu Val Leu Arg Leu Thr Gly Thr
 145 150 155 160
 Ala Trp Glu Lys Val Glu Asp Glu Ser Gly Asp Thr Thr Leu Lys Glu
 165 170 175
 Ile Pro Leu Ala Thr Thr Tyr Ser Gln Lys Glu Gly Val Leu Leu Ser
 180 185 190
 Arg Pro Pro Leu Glu Asp Cys Ala His Leu Asn Leu Ala His Phe Gln
 195 200 205
 Arg Arg Ser Asp Leu Thr Gln Val Leu Thr Ile Ala Gly Gln Pro Ile
 210 215 220
 Leu Asp Met Val Gly Trp Glu Gly Asp Asp Asp Glu Glu Ala Asp Asp
 225 230 235 240
 Leu Asp Pro Thr Asn Thr Asp Gly Glu Ile Gly Leu Ser Val Asn Ser
 245 250 255
 Ala Leu Gln Tyr Pro Ile Gly Gly Gly Ser Lys Tyr Cys Glu Ile Thr
 260 265 270
 Gly Ala Ser Cys Glu Ala His Gln Lys Glu Leu Glu Val Leu Lys Glu
 275 280 285
 Gln Ile Thr Gln Leu Gly Ile Ser Val Leu Thr Gln Gln Gln Thr Phe
 290 295 300
 Gln Glu Thr Glu Gly Ala Lys Thr Leu Asp Arg Ala Glu Ser Asn Ser
 305 310 315 320
 Met Leu Ser Val Ile Ala Arg Asp Leu Ala Ser Thr Leu Gln Ile Val
 325 330 335
 Met Asn Trp Cys Gly Glu Tyr Thr Gly Arg Glu Ala Ser Thr Val Val
 340 345 350
 Ile Asp Ser Asp Phe Asp His Ala Lys Leu Thr Lys Glu Glu Ala Glu
 355 360 365
 Leu Tyr Leu Lys Ala Tyr Ile Asp Gly Gly Ile Asp Leu Glu Thr Phe
 370 375 380
 Leu Thr Val Trp Gln Thr Gly Glu Trp Leu Pro Asp Ser Val Asp Val
 385 390 395 400
 Glu Glu Leu Arg Asp Thr Ile Glu Gly Glu Glu Ala Glu Glu Thr Glu
 405 410 415
 Glu Glu Leu Asp Pro Glu Ala Asp Thr Pro Asp Pro Glu Ala Asp Pro
 420 425 430
 Glu Ala Asp Pro Glu Ala Asp Pro Pro Glu Thr Asp Glu
 435 440 445

<210> 136

<211> 79

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 10361 right: 10597 frame: -3 size(aa): 79

<400> 136

Gly Gly Gly Gly Ala Leu Pro Gln Gly Val His Arg Trp Arg His Arg
1 5 10 15

Pro Gly Asp Leu Pro Asp Gly Leu Ala Asp Arg Arg Met Ala Ala Arg
20 25 30

Gln Arg Gly Arg Arg Gly Ala Pro Gly His His Arg Gly Arg Gly Gly
35 40 45

Arg Gly Asp Arg Gly Gly Ala Arg Pro Gly Gly Arg His Pro Gly Ser
50 55 60

Gly Gly Arg Pro Gly Ser Arg Pro Gly Gly Arg Pro Pro Gly Asp
65 70 75

<210> 137

<211> 186

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 10583 right: 11140 frame: 3 size(aa): 186

<400> 137

Ser Ser Ala Ser Ser Leu Val Ser Leu Ala Trp Ser Lys Ser Leu Ser
1 5 10 15

Met Thr Thr Val Asp Ala Ser Arg Pro Val Tyr Ser Pro His Gln Phe
20 25 30

Met Thr Ile Trp Ser Val Glu Ala Arg Ser Arg Ala Met Thr Glu Ser
35 40 45

Met Leu Leu Asp Ser Ala Arg Ser Ser Val Leu Ala Pro Ser Val Ser
50 55 60

Trp Lys Val Cys Cys Trp Val Arg Thr Glu Met Pro Ser Trp Val Ile
65 70 75 80

Cys Ser Leu Ser Thr Ser Ser Ser Phe Trp Cys Ala Ser Gln Leu Ala
85 90 95

Pro Val Ile Ser Gln Tyr Leu Glu Pro Pro Pro Met Gly Tyr Cys Lys
100 105 110

Ala Leu Leu Thr Glu Ser Pro Ile Ser Pro Ser Val Leu Val Gly Ser
115 120 125

Arg Ser Ser Ala Ser Ser Ser Ser Ser Pro Ser Gln Pro Thr Met Ser

130

135

140

Arg Met Gly Trp Pro Ala Ile Val Ser Thr Trp Val Arg Ser Leu Arg
145 150 155 160

Arg Trp Lys Trp Ala Arg Leu Arg Trp Ala Gln Ser Ser Ser Gly Gly
165 170 175

Arg Leu Ser Ser Thr Pro Ser Phe Trp Leu
180 185

<210> 138

<211> 119

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 10680 right: 11036 frame: -1 size(aa): 119

<400> 138

Arg Leu Pro Ala Ser Pro Ser Leu Thr Trp Ser Ala Gly Arg Ala Thr
1 5 10 15

Thr Thr Arg Arg Pro Thr Thr Trp Thr Arg Pro Thr Pro Met Ala Arg
20 25 30

Ser Gly Ser Arg Ser Thr Ala Pro Cys Ser Thr Pro Ser Val Gly Ala
35 40 45

Pro Ser Ile Ala Arg Ser Pro Gly Pro Ala Ala Arg Arg Thr Arg Lys
50 55 60

Asn Trp Arg Cys Ser Arg Ser Arg Ser Pro Ser Trp Ala Ser Arg Ser
65 70 75 80

Ser Pro Ser Ser Arg Pro Ser Lys Arg Pro Arg Gly Pro Arg His Leu
85 90 95

Thr Gly Pro Asn Pro Thr Ala Cys Ser Arg Ser Ser Pro Glu Thr Trp
100 105 110

Pro Arg Arg Ser Arg Ser Ser
115

<210> 139

<211> 87

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 10751 right: 11011 frame: -3 size(aa): 87

<400> 139

His Gly Arg Leu Gly Gly Arg Arg Arg Arg Gly Gly Arg Arg Pro Gly
1 5 10 15

Pro Asp Gln His Arg Trp Arg Asp Arg Ala Leu Gly Gln Gln Arg Leu
20 25 30
Ala Val Pro His Arg Trp Gly Leu Gln Val Leu Arg Asp His Arg Gly
35 40 45
Gln Leu Arg Gly Ala Pro Glu Arg Thr Gly Gly Ala Gln Gly Ala Asp
50 55 60
His Pro Ala Gly His Leu Gly Pro His Pro Ala Ala Asp Leu Pro Arg
65 70 75 80
Asp Arg Gly Gly Gln Asp Thr
85

<210> 140
<211> 51
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 10929 right: 11081 frame: 1 size(aa): 51

<400> 140

Pro Arg Ala Arg Ser Arg His Arg Cys Trp Ser Gly Pro Gly Arg Arg
1 5 10 15
Pro Pro Arg Arg Arg Arg Pro Pro Ser Arg Pro Cys Gln Gly Trp Ala
20 25 30
Gly Arg Gln Ser Ser Ala Pro Gly Ser Gly Arg Cys Ala Val Gly Asn
35 40 45
Gly Pro Gly
50

<210> 141
<211> 152
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11015 right: 11470 frame: -3 size(aa): 152

<400> 141

Leu Gly Pro Gly Arg Leu His Gln Arg Gly Thr Pro Glu Pro Ala Arg
1 5 10 15
Pro Ala Ala Gly Arg Gly Gln Ala Ile Ser Gly Ala Gly Ala Leu Leu
20 25 30
Gly His His Arg Pro Pro Ala Gln Pro Pro Gly Gly Leu Arg Pro Pro
35 40 45

Ala Gly Ala Asp Pro Gly Val Arg Arg Gly Ala Arg Arg Gln Val Arg
50 55 60

Gly Gln Arg Arg Gly Ala Asp Pro Gly Ala Asp Pro Gly Arg Leu Arg
65 70 75 80

Gly Ala Ala Pro Asp Arg His Arg Leu Gly Glu Gly Arg Gly Arg Glu
85 90 95

Arg Arg His His Thr Gln Arg Asp Pro Pro Gly His Asp Leu Gln Pro
100 105 110

Lys Gly Gly Gly Ala Ala Gln Pro Ala Pro Ala Arg Gly Leu Arg Pro
115 120 125

Ser Gln Pro Gly Pro Phe Pro Thr Ala Gln Arg Pro Asp Pro Gly Ala
130 135 140

Asp Asp Cys Arg Pro Ala His Pro
145 150

<210> 142

<211> 55

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 11052 right: 11216 frame: -1 size(aa): 55

<400> 142

Pro Ala Pro Pro Gly Arg Arg Ser Arg Thr Arg Ala Ala Thr Pro His
1 5 10 15

Ser Lys Arg Ser Pro Trp Pro Arg Pro Thr Ala Lys Arg Arg Gly Cys
20 25 30

Cys Ser Ala Gly Pro Arg Ser Arg Thr Ala Pro Ile Ser Thr Trp Pro
35 40 45

Ile Ser Asn Gly Ala Ala Thr
50 55

<210> 143

<211> 72

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 11237 right: 11452 frame: 3 size(aa): 72

<400> 143

Ala Pro Gly Val Ser Thr Arg Ile Cys Ser Ser Thr Leu Thr Pro Tyr
1 5 10 15

Leu Pro Ala Gly Thr Ser Thr Tyr Ser Arg Ile Arg Thr Cys Trp Arg

20 25 30

Pro Glu Pro Ser Arg Gly Leu Cys Arg Arg Pro Met Val Ala Gln Gln
 35 40 45

Gly Thr Cys Thr Arg Asn Gly Leu Ser Pro Ala Ser Arg Trp Ser Ser
 50 55 60

Arg Leu Trp Arg Ser Ser Leu Val
 65 70

<210> 144

<211> 84

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 11250 right: 11501 frame: -1 size(aa): 84

<400> 144

Arg Ser Gly Trp Pro Ser Leu Thr Gly Ile Ala Arg Ser Trp Pro Thr
 1 5 10 15

Thr Pro Ala Arg Asn Ala Arg Ala Cys Ser Thr Ser Gly Trp Pro Gly
 20 25 30

Thr Ser His Phe Trp Cys Arg Cys Pro Ala Gly Pro Pro Ser Ala Ala
 35 40 45

Gly Thr Thr Pro Gly Arg Ala Pro Ala Ser Ser Arg Cys Gly Ser Gly
 50 55 60

Ser Thr Ser Arg Cys Pro Pro Ala Ser Thr Gly Ser Thr Ser Arg Ser
 65 70 75 80

Arg Ser Gly Cys

<210> 145

<211> 239

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 11277 right: 11993 frame: 1 size(aa): 239

<400> 145

Pro Arg Thr Cys Arg Arg Ala Pro Arg Arg Thr Pro Gly Ser Ala Pro
 1 5 10 15

Ala Gly Gly Arg Ser Pro Pro Gly Gly Cys Ala Gly Gly Arg Trp Trp
 20 25 30

Pro Ser Arg Ala Pro Ala Pro Glu Met Ala Cys Pro Arg Pro Ala Ala
 35 40 45

Gly Arg Ala Gly Ser Gly Val Pro Arg Trp Cys Ser Arg Pro Gly Pro
 50 55 60
 Ser Tyr Ala Arg Lys Arg Trp Pro Ala Arg Ala Leu Pro Gly Arg Ser
 65 70 75 80
 Arg Pro Gly Arg Ser Pro Asp Gly Pro Arg Leu Cys Ala Thr Pro Pro
 85 90 95
 Ser Arg Pro Arg Arg Pro Pro Ala Ala Gly Ser Ala Ser Gly Gly Ser
 100 105 110
 Gly Arg Arg Pro Pro Asp Gln Ala Gly Gln Val Gly Gly Val His Arg
 115 120 125
 Pro Gly Asp Pro Pro Asp Val Leu Pro Phe Thr Leu Pro Gly Glu Pro
 130 135 140
 Gly Gln Val Val Ile Ala Glu Arg Pro Glu Val Pro Asp Ala Leu Gln
 145 150 155 160
 Val Gly Pro Asp His Leu Pro Ala Ala Gln His His Pro Val Gly Gln
 165 170 175
 Val Arg Phe Val Arg Val Val Arg Arg Gln Gly Val Ser Ser Gln Leu
 180 185 190
 Cys Leu Gly Gln Gly Leu Gly Ile Gln Asp Arg Val Ile Pro Pro Ala
 195 200 205
 Glu Gly Gly Ile His Arg Gly Gly Gly Gly Arg Leu Ser His Thr Pro
 210 215 220
 Glu Leu Arg Pro Ala Arg Ser Trp Lys Ser Arg Asn Ala Ser Pro
 225 230 235

<210> 146

<211> 52

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 11474 right: 11629 frame: -3 size(aa): 52

<400> 146

Ser Gly Gly Arg Arg Pro Asp Pro Pro Glu Ala Asp Pro Ala Ala Gly
 1 5 10 15
 Gly Arg Arg Gly Leu Leu Gly Gly Val Ala Gln Arg Arg Gly Pro Ser
 20 25 30
 Gly Leu Leu Pro Gly Arg Leu Arg Pro Gly Asn Ala Arg Ala Gly His
 35 40 45
 Leu Leu Arg Ala
 50

<210> 147
<211> 128
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11570 right: 11953 frame: 3 size(aa): 128

<400> 147

Ala Ser Ser Pro Pro Cys Ser Trp Ile Gly Phe Arg Arg Ile Arg Pro
1 5 10 15
Ala Pro Pro Gly Ser Gly Gly Pro Gly Arg Gly Cys Thr Pro Pro Gly
20 25 30
Arg Pro Ala Arg Cys Thr Ala Val Tyr Ala Pro Gly Gly Thr Gly Ala
35 40 45
Gly Ser Asn Arg Arg Thr Pro Gly Gly Thr Gly Arg Pro Pro Gly Trp
50 55 60
Pro Gly Ser Pro Pro Ser Gly Ala Ala Ser Pro Gly Arg Ser Gly Pro
65 70 75 80
Val Arg Ser Gly Arg Pro Ala Pro Gly Ser Leu Leu Pro Ala Leu Pro
85 90 95
Arg Pro Gly Pro Arg Asp Ser Gly Pro Cys Asp Pro Ala Ser Arg Gly
100 105 110
Arg Asp Pro Ser Gly Arg Arg Arg Ala Ser Gln Ser Tyr Pro Gly Ala
115 120 125

<210> 148
<211> 186
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11613 right: 12170 frame: -1 size(aa): 186

<400> 148

Pro Pro Thr Ala Ser Ala Thr Ile Ala Phe Thr Pro Gly Ala Arg Arg
1 5 10 15
Pro Ser Arg Ala Ser Glu Ala Ser Ala Ser Arg Arg Gly Pro Arg Ala
20 25 30
Ser Pro Ser Thr Arg Ser Pro Gly Ser Ser Thr Gly Arg Thr Ala Trp
35 40 45
Gly Thr Trp Pro Cys Arg Pro Ala Thr Ala Ser Arg Ala Gly Val Pro
50 55 60
Ala Leu Pro Thr Ser Arg Trp Ser Lys Leu Arg Gly Met Thr Glu Thr

<400> 150

Ser Arg Gln Pro Arg Ala Gly Ser Ile Gly Ala Glu Glu Gly Val Ser
 1 5 10 15
 Val Ile Pro Arg Ser Leu Asp Gln Arg Glu Val Gly Arg Ala Gly Thr
 20 25 30
 Pro Ala Leu Asp Ala Val Ala Gly Arg Gln Gly Gln Val Pro Gln Ala
 35 40 45
 Val Arg Pro Val Leu Asp Pro Gly Leu Leu Val Asp Gly Glu Ala Leu
 50 55 60
 Gly Pro Leu Leu Asp Ala Asp Ala Ser Glu Ala Leu Asp Gly Leu Leu
 65 70 75 80
 Ala Pro Gly Val Asn Ala Ile Val Ala Leu Ala Val Gly Gly His Asp
 85 90 95
 Gln Arg Val Arg Arg Val Glu Leu Val Leu Asp Ala Pro Gly Gly Val
 100 105 110
 Arg Gly Glu Asp Leu Glu Ala Val Leu Pro Glu Asp Arg Met Val Gly
 115 120 125
 Asp Ala Gly Leu Gly Gly Arg Leu Pro Ala Val Ala Arg Arg Val Gly
 130 135 140
 Ala Asp His Asp Leu Ala Pro Leu Glu Pro Leu Gly Gln Val Ala Pro
 145 150 155 160
 His Leu Val Gly Val Ala Val Arg His Val Asp Leu Val Pro Leu Gln
 165 170 175
 Gln Pro Leu Ala Arg Glu Asp Arg Ala Asp Asp Ala Gly His His Arg
 180 185 190
 His Val Lys Val Glu Ala Asp Val Asp Arg Ala Ala Val Val Leu Gly
 195 200 205
 Ala Leu Pro Asp Val Leu Leu Ala Glu Val Val Val Gly Pro Ala Gly
 210 215 220
 Ser Ser Leu Glu Ala Gly Leu Val Leu Leu Ala Glu Gly Ala Gly Val
 225 230 235 240
 Glu Val Val Pro Gly Leu Leu Asp Leu Gly Leu Gly Asp Pro Ala Ala
 245 250 255
 Leu Asp Gly Gly Glu Leu Glu Ala Gly Pro Phe Arg Val Leu Leu His
 260 265 270
 Arg Leu Pro Glu Leu Val Val Met Val Glu Ala Leu Arg Gly Gly Asp
 275 280 285
 Leu Pro Ala Arg Pro Leu Leu Val Arg Gln Arg Arg Leu Gln His Leu
 290 295 300

Gly Pro Glu Leu Arg Leu Gly Glu Arg Arg Leu Val Asp Asp Gly Pro
305 310 315 320

Gly Gln Ala Val Ala Pro Glu Ala Val Gly Val Val Arg Pro Lys Glu
325 330 335

Arg Gln Arg Arg Pro Val Pro Gln Val Asp Pro Glu Leu Gly Val Val
340 345 350

Asp Ala Gly Asp Ile Cys Arg Val Asp Gln Leu Leu Glu Ala Leu Pro
355 360 365

Gly Asp Pro Leu Gly Arg Pro Val Gly Arg Gly Asp Val Pro Val Val
370 375 380

Ala Leu Arg Val Gly His Ala Pro Val Pro Glu Ala Asp Gln Gly Gln
385 390 395 400

Val Arg Leu Ala Glu Ala Pro Ala Ala Gly Glu Gln Asp Val Ala Pro
405 410 415

Ala Ala Arg Val Asp Leu Arg Leu Gly Ala Ala Glu Leu Pro Asp Arg
420 425 430

Leu Ala Leu Ile Lys Ser
435

<210> 151

<211> 176

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 11942 right: 12469 frame: -3 size(aa): 176

<400> 151

Arg Val Gly Asp Gly Arg Arg His Leu Leu Asp Pro Pro Gly Gln Ala
1 5 10 15

Ala Ala Ala Val Gly Arg Asp Gln His Ala Glu Gln Gln His Arg Arg
20 25 30

Gly Gly Ala Leu Pro Gly Arg Ala Val Pro Gly Ala Gln Gly Arg Gly
35 40 45

Leu Pro Arg Pro Asp Gly Gln Gln Pro Glu Asp Val Arg Arg Gly Arg
50 55 60

Arg His Arg Pro Tyr Asp Pro Pro Glu Ala Arg Pro Gln Gly Pro His
65 70 75 80

Pro Glu Leu Pro Leu Gly Arg Gln Gly Gln Ala Gln Arg Asp Glu Arg
85 90 95

Ala Gly His Asp Arg Arg Arg Arg Ala Pro Leu Ser His Ser Pro Pro
100 105 110

Val Gln Glu Asp His Gln Gly Pro Pro Arg Arg Leu Arg Gln Gly Gly

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115 120 125
 Gly Arg Gly Leu Arg His Arg Gln Glu Ala Arg Asp Arg Ala Leu Asp
 130 135 140
 Gly Arg Pro Gly Val Pro Gly Pro Val Gly Leu Gln Pro Arg Gln Gly
 145 150 155 160
 Leu Ala Phe Arg Leu Phe Gln Leu Leu Ala Gly Leu Ser Ser Gly Val
 165 170 175

 <210> 152
 <211> 448
 <212> PRT
 <213> Cyanophage S-2L

 <220>
 <221> misc_feature
 <223> >New ORF = left: 11956 right: 13299 frame: -2 size(aa): 448

 <400> 152

 Gly Gly Gly Tyr Gly Arg Arg Thr Arg Tyr Met Leu Phe Pro Ala Thr
 1 5 10 15
 Cys Gly Gly Thr Ile Leu Gly Ser Arg Ser Gly Arg Gly Ser Asn Leu
 20 25 30
 Ala Phe Asp Glu Arg Gln Ser Ile Arg Glu Leu Ser Gly Pro Gln Ala
 35 40 45
 Gln Ile Tyr Thr Cys Gly Arg Arg Asn Val Leu Leu Thr Cys Gly Arg
 50 55 60
 Arg Phe Gly Lys Thr His Leu Ala Leu Ile Arg Leu Arg Asn Trp Gly
 65 70 75 80
 Met Ser His Pro Glu Gly Asn Tyr Trp Tyr Val Ala Pro Thr Tyr Arg
 85 90 95
 Ala Ala Lys Arg Ile Ala Trp Lys Arg Leu Lys Lys Leu Ile Asp Pro
 100 105 110
 Thr Tyr Val Ala Gly Ile Asn Asn Thr Glu Leu Arg Ile Asp Leu Trp
 115 120 125
 Asn Gly Ala Thr Leu Thr Leu Phe Gly Ala Asp Asn Pro Asp Ser Leu
 130 135 140
 Arg Gly Asp Ser Leu Ser Gly Ala Val Ile Asp Glu Ala Ala Phe Thr
 145 150 155 160
 Lys Pro Glu Leu Trp Thr Glu Val Leu Gln Pro Ala Leu Ser Asp Gln
 165 170 175
 Glu Gly Pro Cys Trp Gln Ile Thr Thr Pro Lys Gly Phe Asn His Tyr
 180 185 190
 His Glu Leu Trp Glu Ser Val Glu Glu Asp Pro Glu Trp Ala Arg Phe
 195 200 205

Glu Phe Thr Thr Ile Gln Gly Gly Arg Val Ser Glu Ala Glu Ile Glu
210 215 220

Lys Ala Arg Asn His Leu Asp Pro Arg Thr Phe Arg Gln Glu Tyr Glu
225 230 235 240

Ala Ser Phe Glu Ala Ala Ala Gly Arg Ala Tyr Tyr Asp Phe Gly Gln
245 250 255

Glu Asn Ile Trp Glu Gly Ala Glu Asp Asn Gly Gly Thr Val Tyr Val
260 265 270

Gly Leu Asp Phe Asn Val Ser Val Met Ala Gly Val Ile Cys Ser Ile
275 280 285

Leu Pro Gly Lys Arg Leu Leu Gln Trp Asp Glu Ile Asn Met Pro Asn
290 295 300

Ser Asn Thr Asp Glu Val Gly Arg Tyr Leu Ala Glu Arg Phe Gln Gly
305 310 315 320

Arg Lys Val Val Val Cys Pro Asp Pro Thr Gly Asn Ser Arg Lys Thr
325 330 335

Ser Ala Glu Ala Gly Val Thr Asp His Thr Ile Leu Arg Lys His Gly
340 345 350

Leu Lys Val Leu Thr Pro Asn Ser Pro Trp Gly Val Lys Asp Lys Leu
355 360 365

Asn Ala Thr Asn Ala Leu Val Met Thr Ala Asp Gly Glu Arg His Tyr
370 375 380

Arg Ile His Pro Arg Cys Lys Lys Thr Ile Lys Gly Leu Arg Gly Val
385 390 395 400

Cys Val Lys Glu Gly Ala Glu Gly Phe Ala Ile Asp Lys Lys Pro Gly
405 410 415

Ile Glu His Trp Thr Asp Gly Leu Gly Tyr Leu Ala Leu Ser Ala Cys
420 425 430

Asn Arg Val Lys Gly Trp Arg Ser Gly Ser Ser Asn Phe Ser Leu Val
435 440 445

<210> 153

<211> 61

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 11957 right: 12139 frame: 3 size(aa): 61

<400> 153

Thr Ser Glu Lys Leu Glu Glu Pro Glu Arg Gln Pro Leu Thr Arg Leu
1 5 10 15

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Gln Ala Asp Arg Ala Arg Tyr Pro Arg Pro Ser Val Gln Cys Ser Ile
 20 25 30

Pro Gly Phe Leu Ser Met Ala Lys Pro Ser Ala Pro Ser Leu Thr Gln
 35 40 45

Thr Pro Arg Arg Pro Leu Met Val Phe Leu His Arg Gly
 50 55 60

<210> 154
 <211> 70
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> >New ORF = left: 12152 right: 12361 frame: 3 size(aa): 70

<400> 154

Trp Arg Ser Pro Ser Ala Val Met Thr Ser Ala Phe Val Ala Leu Ser
 1 5 10 15

Leu Ser Leu Thr Pro Gln Gly Glu Phe Gly Val Arg Thr Leu Arg Pro
 20 25 30

Cys Phe Arg Arg Ile Val Trp Ser Val Thr Pro Ala Ser Ala Asp Val
 35 40 45

Phe Arg Leu Leu Pro Val Gly Ser Gly Gln Thr Thr Thr Leu Arg Pro
 50 55 60

Trp Asn Arg Ser Ala Arg
 65 70

<210> 155
 <211> 95
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> >New ORF = left: 12174 right: 12458 frame: -1 size(aa): 95

<400> 155

Trp Pro Ala Ser Ser Ala Arg Ser Ser Arg Ala Ser Gly Cys Cys Ser
 1 5 10 15

Gly Thr Arg Ser Thr Cys Arg Thr Ala Thr Pro Thr Arg Trp Gly Ala
 20 25 30

Thr Trp Pro Ser Gly Ser Arg Gly Ala Arg Ser Trp Ser Ala Pro Thr
 35 40 45

Arg Arg Ala Thr Ala Gly Arg Arg Pro Pro Arg Pro Ala Ser Pro Thr
 50 55 60

Ile Arg Ser Ser Gly Ser Thr Ala Ser Arg Ser Ser Pro Arg Thr Pro

65 70 75 80

Pro Gly Ala Ser Arg Thr Ser Ser Thr Arg Arg Thr Arg Trp Ser
 85 90 95

<210> 156
<211> 146
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 12462 right: 12899 frame: -1 size(aa): 146

<400> 156

Arg Ser Leu Gly Arg Thr Thr Pro Thr Ala Ser Gly Ala Thr Ala Cys
1 5 10 15

Pro Gly Pro Ser Ser Thr Arg Arg Arg Ser Pro Ser Arg Ser Ser Gly
 20 25 30

Pro Arg Cys Cys Ser Arg Arg Cys Arg Thr Arg Arg Gly Arg Ala Gly
 35 40 45

Arg Ser Pro Pro Arg Arg Ala Ser Thr Ile Thr Thr Ser Ser Gly Ser
50 55 60

Arg Trp Arg Arg Thr Arg Asn Gly Pro Ala Ser Ser Ser Pro Pro Ser
65 70 75 80

Arg Ala Ala Gly Ser Pro Arg Pro Arg Ser Arg Arg Pro Gly Thr Thr
 85 90 95

Ser Thr Pro Ala Pro Ser Ala Arg Ser Thr Arg Pro Ala Ser Arg Leu
 100 105 110

Leu Pro Ala Gly Pro Thr Thr Thr Ser Ala Arg Arg Thr Ser Gly Arg
115 120 125

Ala Pro Arg Thr Thr Ala Ala Arg Ser Thr Ser Ala Ser Thr Leu Thr
130 135 140

Cys Arg
145

<210> 157
<211> 240
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 12473 right: 13192 frame: -3 size(aa): 240

<400> 157

Ala Pro Val Asp Pro Gly Ala Gln Arg Pro Pro Gly Ala Asp Leu His
1 5 10 15

Val Arg Pro Ala Gln Arg Pro Ala His Leu Arg Pro Ala Leu Arg Gln
 20 25 30
 Asp Ala Pro Gly Pro Asp Pro Pro Glu Leu Gly His Val Pro Pro
 35 40 45
 Gly Gly Gln Leu Leu Val Arg Arg Pro Asp Leu Pro Gly Gly Gln Ala
 50 55 60
 Asp Arg Leu Glu Ala Pro Gln Glu Ala Asp Arg Pro Asp Ile Cys Arg
 65 70 75 80
 Arg His Gln Gln His Arg Ala Pro Asp Arg Pro Val Glu Arg Gly Asp
 85 90 95
 Ala Asp Ala Leu Trp Gly Gly Gln Pro Arg Gln Pro Pro Gly Arg Gln
 100 105 110
 Pro Val Arg Gly Arg His Arg Arg Gly Gly Val His Gln Ala Gly Ala
 115 120 125
 Leu Asp Arg Gly Ala Ala Ala Gly Ala Val Gly Pro Gly Gly Ala Val
 130 135 140
 Leu Ala Asp His His Pro Glu Gly Leu Gln Pro Leu Pro Arg Ala Leu
 145 150 155 160
 Gly Val Gly Gly Gly Gly Pro Gly Met Gly Pro Leu Arg Val His His
 165 170 175
 His Pro Gly Arg Pro Gly Leu Arg Gly Arg Asp Arg Glu Gly Pro Glu
 180 185 190
 Pro Pro Arg Pro Pro His Leu Pro Pro Gly Val Arg Gly Gln Leu Arg
 195 200 205
 Gly Cys Cys Arg Pro Gly Leu Leu Arg Leu Arg Pro Gly Glu His Leu
 210 215 220
 Gly Gly Arg Arg Gly Gln Arg Arg His Gly Leu Arg Arg Pro Arg Leu
 225 230 235 240

<210> 158

<211> 65

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 12474 right: 12668 frame: 1 size(aa): 65

<400> 158

Ser Arg Gly Arg Arg Arg Pro Cys Arg Arg Cys Pro Arg Arg Pro Pro
 1 5 10 15
 Arg Cys Ser Pro Gly Arg Ser Arg Ser Arg Pro Gly Arg Gln Gln Pro
 20 25 30

Arg Ser Trp Pro Arg Thr Pro Gly Gly Arg Cys Gly Gly Arg Gly Gly
35 40 45

Ser Gly Pro Ser Arg Ser Arg Pro Arg Arg Pro Gly Arg Pro Gly Trp
50 55 60

Trp
65

<210> 159

<211> 58

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 12551 right: 12724 frame: 3 size(aa): 58

<400> 159

Ala Arg Pro Ala Ala Ala Ser Lys Leu Ala Ser Tyr Ser Trp Arg Lys
1 5 10 15

Val Arg Gly Ser Arg Trp Phe Arg Ala Phe Ser Ile Ser Ala Ser Glu
20 25 30

Thr Arg Pro Pro Trp Met Val Val Asn Ser Lys Arg Ala His Ser Gly
35 40 45

Ser Ser Ser Thr Asp Ser Gln Ser Ser Trp
50 55

<210> 160

<211> 96

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 12728 right: 13015 frame: 3 size(aa): 96

<400> 160

Trp Leu Lys Pro Phe Gly Val Val Ile Cys Gln His Gly Pro Ser Trp
1 5 10 15

Ser Asp Ser Ala Gly Cys Ser Thr Ser Val Gln Ser Ser Gly Leu Val
20 25 30

Asn Ala Ala Ser Ser Met Thr Ala Pro Asp Arg Leu Ser Pro Arg Arg
35 40 45

Leu Ser Gly Leu Ser Ala Pro Lys Ser Val Ser Val Ala Pro Phe His
50 55 60

Arg Ser Ile Arg Ser Ser Val Leu Leu Met Pro Ala Thr Tyr Val Gly
65 70 75 80

Ser Ile Ser Phe Leu Arg Arg Phe Gln Ala Ile Arg Leu Ala Ala Arg

85

90

95

<210> 161
 <211> 151
 <212> PRT
 <213> Cyanophage S-2L

 <220>
 <221> misc_feature
 <223> >New ORF = left: 13173 right: 13625 frame: 1 size(aa): 151

<400> 161

Ala	Pro	Gly	Ser	Thr	Gly	Ala	His	Gln	Lys	Leu	Gly	Trp	Ile	Pro	Gly
1				5					10					15	
Pro	Thr	Gly	Ser	Arg	Gly	Ser	Cys	Arg	Arg	Arg	Trp	Leu	Gly	Arg	Ala
			20				25						30		
Cys	Ser	Gly	Tyr	Asp	Ala	His	Ile	Leu	His	Leu	Asn	Ser	Gly	Ser	Val
		35					40					45			
Pro	Gln	Leu	Gln	Asp	Glu	Leu	Leu	Pro	Ile	Glu	Ala	Val	Asp	Leu	Arg
	50					55					60				
Leu	Arg	Glu	His	Ala	Lys	Gln	Val	Leu	Glu	Ser	Gly	Leu	Gly	Asp	Arg
65					70					75				80	
Pro	Val	Pro	Ala	Pro	Glu	Ala	Ala	Val	Gly	Pro	Trp	Val	Arg	Glu	Gly
			85						90					95	
Pro	Val	Ser	Gln	Pro	Gly	Gln	Pro	Leu	Val	Glu	Pro	Val	Gly	Gln	His
			100					105					110		
His	Val	Phe	Leu	Ile	Val	Arg	Ser	Asn	Trp	Asn	Met	Ser	Ser	Ser	Cys
		115					120					125			
Thr	Ser	Thr	Ser	Asn	Thr	Glu	Ser	Ile	Arg	Arg	Arg	Phe	Ile	Cys	Ser
	130					135					140				
Ile	Ser	Arg	Cys	Trp	Thr	Ser									
145						150									

<210> 162
 <211> 90
 <212> PRT
 <213> Cyanophage S-2L

 <220>
 <221> misc_feature
 <223> >New ORF = left: 13199 right: 13468 frame: -3 size(aa): 90

<400> 162

Glu	Thr	Gly	Pro	Ser	Leu	Thr	Gln	Gly	Pro	Thr	Ala	Ala	Ser	Gly	Ala
1				5					10					15	
Gly	Thr	Gly	Arg	Ser	Pro	Arg	Pro	Asp	Ser	Arg	Thr	Cys	Leu	Ala	Cys
			20					25					30		

Ser Arg Arg Arg Arg Ser Thr Ala Ser Ile Gly Arg Ser Ser Ser Cys
35 40 45

Ser Cys Gly Thr Glu Pro Leu Leu Arg Trp Arg Ile Trp Ala Ser Tyr
50 55 60

Pro Leu His Ala Leu Pro Ser His Leu Arg Arg His Asp Pro Arg Leu
65 70 75 80

Pro Val Gly Pro Gly Ile Gln Pro Ser Phe
85 90

<210> 163

<211> 312

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 13206 right: 14141 frame: -1 size(aa): 312

<400> 163

Pro Arg Pro Ser Ala Pro Ser Ser Pro Ser Thr Gly Pro Ala Pro Gly
1 5 10 15

Pro Glu Pro Ile Thr Ala Pro Cys Ala Thr Ser Pro Val Pro Ile Pro
20 25 30

Pro Pro Ser His Asp Thr Pro Asp His Arg Asp Leu Arg Ala Pro Glu
35 40 45

Gly Val Pro His Gln Pro Val Gly Asp Arg Pro Asp Asp Leu Pro Ala
50 55 60

Glu His Arg Arg Thr His Val Ala Arg Leu Ala Pro Val Pro Gly Leu
65 70 75 80

Gly Arg Cys Arg Arg His Ala Pro Ala His Gly Pro Pro Gly Leu Arg
85 90 95

Val Cys Pro Gly Pro Arg Pro Gly Arg Asp Pro Asp Gly Arg Arg Pro
100 105 110

Asp Ala Pro Gln Asp Pro Gly Ala Gln Gly Ala Pro Gly Arg His Arg
115 120 125

Gly Pro Asp Arg Pro Gly Gly Gly Arg Ala Arg Gly Asp His Gly Pro
130 135 140

Gly Gly Gln Arg Ala Leu Glu Val Leu Arg His Arg Arg Gly Arg Pro
145 150 155 160

Val Pro Gln Gly Gln Arg Pro Gly Arg Pro Arg Leu Arg Arg Pro Ala
165 170 175

Pro Ala Asp Gly Ala Asp Glu Thr Ala Pro Asp Gly Leu Gly Val Gly
180 185 190

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Cys Gly Gly Ala Gly Arg Ala His Val Pro Val Arg Ala Asp Asp Gln
195 200 205

Glu Asp Val Met Leu Pro His Arg Leu His Glu Arg Leu Ala Arg Leu
210 215 220

Arg Asp Trp Ala Leu Ser His Pro Gly Ala Asp Cys Arg Leu Trp Cys
225 230 235 240

Gly Asp Arg Ala Ile Ala Glu Ala Arg Phe Glu Asp Leu Leu Gly Met
245 250 255

Leu Ala Gln Ala Glu Ile Asp Cys Phe Asp Arg Gln Glu Leu Val Leu
260 265 270

Gln Leu Arg Asn Arg Ala Thr Ile Lys Val Glu Asp Met Gly Val Val
275 280 285

Pro Ala Thr Cys Ser Ser Gln Pro Pro Ala Ala Ala Arg Ser Ser Ala
290 295 300

Pro Gly Arg Ala Gly Asp Pro Thr
305 310

<210> 164

<211> 81

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 13207 right: 13449 frame: 2 size(aa): 81

<400> 164

Val Gly Ser Pro Ala Arg Pro Gly Ala Glu Asp Arg Ala Ala Ala Gly
1 5 10 15

Gly Trp Glu Glu His Val Ala Gly Thr Thr Pro Ile Ser Ser Thr Leu
20 25 30

Ile Val Ala Leu Phe Arg Ser Cys Arg Thr Ser Ser Cys Arg Ser Lys
35 40 45

Gln Ser Ile Ser Ala Cys Ala Ser Met Pro Ser Arg Ser Ser Asn Arg
50 55 60

Ala Ser Ala Ile Ala Arg Ser Pro His Gln Arg Arg Gln Ser Ala Pro
65 70 75 80

Gly

<210> 165

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 13303 right: 13581 frame: -2 size(aa): 93

<400> 165

Trp Thr Arg Cys Trp Met Trp Arg Cys Arg Thr Ser Ser Cys Ser Ser
1 5 10 15
Ser Ser Gly Arg Ser Arg Arg Arg Asp Ala Ala Pro Gln Ala Pro Arg
20 25 30
Ala Ala Gly Pro Val Glu Arg Leu Gly Pro Leu Ser Pro Arg Gly Arg
35 40 45
Leu Pro Pro Leu Val Arg Gly Pro Gly Asp Arg Arg Gly Pro Ile Arg
50 55 60
Gly Pro Ala Trp His Ala Arg Ala Gly Gly Asp Arg Leu Leu Arg Ser
65 70 75 80
Ala Gly Ala Arg Pro Ala Ala Ala Glu Gln Ser His Tyr
85 90

<210> 166

<211> 344

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 13307 right: 14338 frame: 3 size(aa): 344

<400> 166

Trp Leu Cys Ser Ala Ala Ala Gly Arg Ala Pro Ala Asp Arg Ser Ser
1 5 10 15
Arg Ser Pro Pro Ala Arg Ala Cys Gln Ala Gly Pro Arg Ile Gly Pro
20 25 30
Arg Arg Ser Pro Gly Pro Arg Thr Arg Gly Gly Ser Arg Pro Leu Gly
35 40 45
Glu Arg Gly Pro Ser Leu Ser Thr Gly Pro Ala Ala Arg Gly Ala Cys
50 55 60
Gly Ala Ala Ser Arg Leu Leu Asp Arg Pro Leu Glu Leu Glu His Glu
65 70 75 80
Leu Val Leu His Leu His Ile Gln His Arg Val His Gln Ala Pro Phe
85 90 95
His Leu Leu His Gln Gln Val Leu Asp Val Val Gly Val Gly Ala Gln
100 105 110
Ala Val Asp Leu Glu Glu Gln Asp Gly Leu Gly Gly Val Ala Glu Leu
115 120 125
Pro Lys Leu Ser Gly Leu Arg Gly His Gly Arg Leu Glu Leu Gly His
130 135 140

Leu Arg Asp Asp Leu Gly Leu Asp Ala Gly Gln Glu Leu Leu Glu Leu
145 150 155 160

Arg Gly Leu Val Gly Arg Arg Gly Val Ala Arg Pro Asp Leu Gly Gln
165 170 175

Val Val Asp Gln Gly Lys Leu Ala Gly Leu Ala Asp Arg Val Leu Gly
180 185 190

His Ala Gly Gly Ser Ala Pro Val Pro Ala Gln Glu Pro Asn Ala Pro
195 200 205

His Val Phe Gly Asp Val Leu Arg Val Gly Arg Leu Asp Asp Pro Pro
210 215 220

Pro Ala Asp Val Gly Arg Pro Gln Ala Leu Val Gly Leu Gly Asp Leu
225 230 235 240

Glu Cys His Gly Lys Glu Gly Val Ser Glu Pro Gly Met Trp Arg Met
245 250 255

Ala Pro Leu Ser Ala Arg Ala Gln Glu Arg Ala Arg Leu Met Ala Ser
260 265 270

Leu Ala Arg Met Ala Ser Val Thr Ser Thr Pro Arg Ser Val Ala Arg
275 280 285

Ser Arg Ala Arg Ile Arg Thr Ser Ala Thr Ser Ser Gly Ser Trp Ala
290 295 300

Arg Ser Leu Ala Ile Asn Ser Pro Ile Ser Ser Arg Ser Leu Ala Met
305 310 315 320

Val Arg Arg Gly Gly Gly Arg Gly Ser Gly Gly Gly Ser Arg Arg Arg
325 330 335

Ser Pro Pro Gly Ala Gln Arg Arg
340

<210> 167

<211> 190

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 13511 right: 14080 frame: -3 size(aa): 190

<400> 167

Arg Arg His Ala Pro His Pro Arg Phe Arg Tyr Pro Leu Leu Pro Met
1 5 10 15

Thr Leu Gln Ile Thr Glu Thr Tyr Glu Arg Leu Arg Ala Ser His Ile
20 25 30

Ser Arg Trp Gly Ile Val Gln Thr Thr Tyr Pro Gln Asn Ile Ala Glu
35 40 45

His Met Trp Arg Val Trp Leu Leu Cys Arg Asp Trp Gly Ala Ala Ala
50 55 60

Gly Met Pro Gln His Thr Val Arg Gln Ala Cys Glu Phe Ala Leu Val
65 70 75 80

His Asp Leu Ala Glu Ile Arg Thr Gly Asp Ala Pro Thr Pro His Lys
85 90 95

Thr Pro Glu Leu Lys Glu Leu Leu Ala Gly Ile Glu Ala Gln Ile Val
100 105 110

Pro Glu Val Ala Glu Leu Glu Ala Thr Met Ala Pro Glu Ala Arg Glu
115 120 125

Leu Trp Lys Phe Cys Asp Thr Ala Glu Ala Val Leu Phe Leu Lys Val
130 135 140

Asn Gly Leu Gly Ala His Ala Tyr Asp Val Gln His Leu Leu Met Glu
145 150 155 160

Gln Met Lys Arg Arg Leu Met Asp Ser Val Leu Asp Val Glu Val Gln
165 170 175

Asp Glu Leu Met Phe Gln Phe Glu Arg Thr Ile Lys Lys Thr
180 185 190

<210> 168

<211> 130

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 13609 right: 13998 frame: -2 size(aa): 130

<400> 168

Gly Arg Pro Thr Ser Ala Gly Gly Gly Ser Ser Arg Arg Pro Thr Arg
1 5 10 15

Arg Thr Ser Pro Asn Thr Cys Gly Ala Phe Gly Ser Cys Ala Gly Thr
20 25 30

Gly Ala Leu Pro Pro Ala Cys Pro Ser Thr Arg Ser Ala Arg Pro Ala
35 40 45

Ser Leu Pro Trp Ser Thr Thr Trp Pro Arg Ser Gly Arg Ala Thr Pro
50 55 60

Arg Arg Pro Thr Arg Pro Arg Ser Ser Arg Ser Ser Trp Pro Ala Ser
65 70 75 80

Arg Pro Arg Ser Ser Arg Arg Trp Pro Ser Ser Arg Arg Pro Trp Pro
85 90 95

Arg Arg Pro Glu Ser Phe Gly Ser Ser Ala Thr Pro Pro Arg Pro Ser
100 105 110

Cys Ser Ser Arg Ser Thr Ala Trp Ala Pro Thr Pro Thr Thr Ser Ser

115

120

125

Thr Cys
130

<210> 169

<211> 109

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 13629 right: 13955 frame: 1 size(aa): 109

<400> 169

Ala Trp Ala Pro Arg Pro Leu Thr Leu Arg Asn Arg Thr Ala Ser Ala
1 5 10 15

Val Ser Gln Asn Phe Gln Ser Ser Leu Ala Ser Gly Ala Met Val Ala
20 25 30

Ser Ser Ser Ala Thr Ser Gly Thr Ile Trp Ala Ser Met Pro Ala Arg
35 40 45

Ser Ser Leu Ser Ser Gly Val Leu Trp Gly Val Gly Ala Ser Pro Val
50 55 60

Arg Ile Ser Ala Arg Ser Trp Thr Arg Ala Asn Ser Gln Ala Trp Arg
65 70 75 80

Thr Val Cys Trp Gly Met Pro Ala Ala Ala Pro Gln Ser Arg His Arg
85 90 95

Ser Gln Thr Arg His Met Cys Ser Ala Met Phe Cys Gly
100 105

<210> 170

<211> 67

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 13783 right: 13983 frame: 2 size(aa): 67

<400> 170

Ala Pro Gly Ser Cys Gly Ala Ser Gly Arg Arg Pro Ser Gly Ser Arg
1 5 10 15

Pro Gly Arg Gly Pro Gly Gln Thr Arg Arg Pro Gly Gly Pro Cys Ala
20 25 30

Gly Ala Cys Arg Arg Gln Arg Pro Ser Pro Gly Thr Gly Ala Lys Arg
35 40 45

Ala Thr Cys Val Arg Arg Cys Ser Ala Gly Arg Ser Ser Gly Arg Ser
50 55 60

Pro Thr Gly
65

<210> 171

<211> 131

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 14023 right: 14415 frame: 2 size(aa): 131

<400> 171

Ser Gly Val Ser Trp Glu Gly Gly Gly Ile Gly Thr Gly Asp Val Ala
1 5 10 15

His Gly Ala Val Ile Gly Ser Gly Pro Gly Ala Gly Pro Val Asp Gly
20 25 30

Glu Leu Gly Ala Asp Gly Leu Gly His Val Asp Ala Gln Glu Arg Arg
35 40 45

Gln Val Glu Gly Gln Asp Gln Asp Val Gly His Leu Glu Arg Val Val
50 55 60

Gly Pro Val Ala Gly Asp Gln Leu Pro Asp Leu Leu Gln Glu Leu Gly
65 70 75 80

Asp Gly Ala Pro Gly Arg Arg Ser Gly Phe Arg Gly Trp Ile Gln Ala
85 90 95

Ala Ile Ser Ala Trp Ser Ser Ala Thr Val Ala Gly Ile Gln Thr Phe
100 105 110

Glu Leu Cys Pro Gly Gly Gly Val Val Asp Val Gly Asp Phe Gly Pro
115 120 125

Lys Pro Thr
130

<210> 172

<211> 98

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 14035 right: 14328 frame: -2 size(aa): 98

<400> 172

Ala Pro Gly Gly Asp Arg Arg Leu Asp Pro Pro Pro Glu Pro Arg Pro
1 5 10 15

Pro Pro Arg Arg Thr Ile Ala Lys Leu Leu Glu Glu Ile Gly Glu Leu
20 25 30

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Ile Ala Ser Asp Arg Ala His Asp Pro Leu Glu Val Ala Asp Val Leu
 35 40 45

Ile Leu Ala Leu Asp Leu Ala Thr Leu Leu Gly Val Asp Val Thr Glu
 50 55 60

Ala Ile Arg Ala Lys Leu Ala Ile Asn Arg Ala Arg Ser Trp Ala Arg
 65 70 75 80

Ala Asp Asn Gly Ala Met Arg His Ile Pro Gly Ser Asp Thr Pro Ser
 85 90 95

Phe Pro

<210> 173

<211> 69

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 14084 right: 14290 frame: -3 size(aa): 69

<400> 173

Thr Pro Thr Ala Ala Pro Ala His His Arg Gln Ala Pro Gly Gly Asp
 1 5 10 15

Arg Gly Val Asp Arg Gln Arg Pro Gly Pro Arg Pro Ala Arg Gly Gly
 20 25 30

Arg Arg Pro Asp Pro Gly Pro Arg Pro Gly Asp Ala Pro Gly Arg Arg
 35 40 45

Arg Asp Arg Gly His Pro Arg Gln Ala Arg His Gln Pro Gly Pro Leu
 50 55 60

Leu Gly Pro Ser Arg
 65

<210> 174

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 14115 right: 14393 frame: 1 size(aa): 93

<400> 174

Trp Arg Ala Trp Arg Gly Trp Pro Arg Ser Arg Arg Arg Pro Gly Ala
 1 5 10 15

Ser Pro Gly Arg Gly Pro Gly Ser Gly Arg Arg Pro Pro Arg Ala Gly
 20 25 30

Arg Gly Pro Gly Arg Trp Arg Ser Thr Pro Arg Ser Pro Pro Gly Ala

35 40 45

Trp Arg Trp Cys Ala Gly Ala Ala Val Gly Val Gln Gly Val Asp Pro
50 55 60

Gly Gly Asp Leu Arg Leu Glu Leu Ser Asp Gly Ser Gly His Thr Asn
65 70 75 80

Leu Arg Ala Leu Pro Gly Trp Gly Cys Gly Arg Arg Arg
85 90

<210> 175

<211> 419

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 14235 right: 15491 frame: -1 size(aa): 419

<400> 175

Thr Thr Ser Gly Ala Ser Ser Arg Arg Arg Pro Ser Arg Arg Gly Pro
1 5 10 15

Gly Val Pro Ser Trp Thr Ala Asp Pro Gly Arg Ala Met Leu Ser Ile
20 25 30

Pro Pro Tyr Tyr Arg Val Lys Asn Cys Asn Leu Ile Val Asp Cys Gln
35 40 45

Tyr Gly Ser Thr Gly Lys Gly Leu Leu Ala Gly Tyr Leu Gly Ala Leu
50 55 60

Glu Ala Pro Gln Val Leu Cys Met Ala Pro Ser Pro Asn Ala Gly His
65 70 75 80

Thr Leu Val Glu Glu Asp Gly Thr Ala Arg Val His Lys Met Leu Pro
85 90 95

Leu Gly Ile Thr Ser Pro Ser Leu Glu Arg Ile Tyr Leu Gly Pro Gly
100 105 110

Ser Val Ile Asp Met Asp Arg Leu Leu Glu Glu Tyr Leu Ala Leu Pro
115 120 125

Arg Gln Val Glu Leu Trp Val His Gln Asn Ala Ala Val Val Leu Gln
130 135 140

Glu His Arg Asp Glu Glu Ala Ala Gly Gly Leu Ala Pro Gly Ser Thr
145 150 155 160

Arg Ser Gly Ala Gly Ser Ala Phe Ile Ala Lys Ile Arg Arg Arg Pro
165 170 175

Gly Thr Leu Leu Phe Gly Glu Ala Val Arg Asp His Pro Leu His Gly
180 185 190

Val Val Arg Val Val Asp Thr Arg Thr Ala Gln Asp Met Leu Phe Arg
195 200 205

Thr Arg Ser Ile Gln Ala Glu Gly Cys Gln Gly Tyr Ser Leu Ser Val
 210 215 220
 His His Gly Ala Tyr Pro Tyr Cys Thr Ala Arg Asp Val Thr Thr Ala
 225 230 235 240
 Gln Leu Ile Ala Asp Cys Gly Leu Pro Tyr Asp Val Ala Arg Ile Ala
 245 250 255
 Arg Val Val Gly Ser Met Arg Thr Tyr Pro Ile Arg Val Ala Asn Arg
 260 265 270
 Pro Glu Ala Gly Glu Trp Ser Ala Pro Cys Tyr Pro Asp Ser Val Glu
 275 280 285
 Cys Gln Phe Ala Asp Leu Gly Leu Glu Gln Glu Tyr Thr Thr Val Thr
 290 295 300
 Lys Leu Pro Arg Arg Ile Phe Thr Phe Ser Ala Ile Gln Ala His Glu
 305 310 315 320
 Ala Ile Ala Gln Asn Gly Val Asp Glu Val Phe Leu Asn Phe Ala Gln
 325 330 335
 Tyr Pro Pro Ser Leu Gly Ala Leu Glu Asp Ile Leu Asp Ala Ile Glu
 340 345 350
 Ala Arg Ala Glu Val Thr Tyr Val Gly Phe Gly Pro Lys Ser Pro Thr
 355 360 365
 Ser Thr Thr Pro Pro Pro Gly Gln Ser Ser Lys Val Cys Met Pro Ala
 370 375 380
 Thr Val Ala Glu Leu Gln Ala Glu Ile Ala Ala Trp Ile His Pro Leu
 385 390 395 400
 Asn Pro Asp Arg Arg Pro Gly Ala Pro Ser Pro Ser Ser Trp Arg Arg
 405 410 415

Ser Gly Ser

<210> 176

<211> 73

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 14332 right: 14550 frame: -2 size(aa): 73

<400> 176

Arg His Pro Gly Ala Arg Gly His Arg Pro Glu Arg Arg Gly Arg Gly
 1 5 10 15
 Val Pro Gln Leu Arg Pro Val Pro Ala Gln Pro Arg Gly Ser Arg Gly
 20 25 30

His Pro Arg Arg His Arg Gly Gln Gly Gly Gly Asp Leu Arg Arg Leu
35 40 45

Arg Pro Glu Val Thr Asp Val Tyr His Thr Pro Thr Arg Ala Glu Leu
50 55 60

Glu Gly Leu Tyr Ala Arg Tyr Arg Arg
65 70

<210> 177
<211> 244
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14397 right: 15128 frame: 1 size(aa): 244

<400> 177

Leu Arg Ala Glu Ala Asp Val Gly His Leu Arg Pro Gly Leu Asp Gly
1 5 10 15

Val Glu Asp Val Leu Glu Ser Pro Glu Ala Gly Arg Val Leu Gly Glu
20 25 30

Val Glu Glu His Leu Val His Ala Val Leu Gly Asp Gly Leu Val Arg
35 40 45

Leu Asp Gly Ala Lys Arg Lys Asp Pro Ala Gly Glu Leu Arg His Gly
50 55 60

Gly Val Leu Leu Leu Gln Ala Gln Val Gly Glu Leu Ala Leu Asp Arg
65 70 75 80

Val Gly Val Ala Gly Gly Ala Pro Leu Thr Gly Leu Arg Ala Val Gly
85 90 95

His Pro Asp Arg Val Gly Pro His Arg Ala Asp Asp Pro Gly Asp Pro
100 105 110

Gly Asp Val Val Gly Gln Ala Ala Val Gly Asp Gln Leu Gly Arg Arg
115 120 125

Asp Val Pro Gly Gly Ala Val Gly Val Gly Pro Val Val Asp Arg Gln
130 135 140

Ala Val Ala Leu Ala Pro Leu Gly Leu Asp Arg Pro Gly Pro Lys Gln
145 150 155 160

His Val Leu Gly Gly Pro Gly Val Asp Asp Pro Asp Asp Thr Val Glu
165 170 175

Arg Val Ile Pro Asp Gly Leu Thr Glu Gln Glu Arg Pro Arg Ala Ala
180 185 190

Ala Asp Leu Gly Asp Lys Arg Arg Ala Gly Ala Ala Ala Gly Arg Ala
195 200 205

Trp Gly Gln Ala Pro Gly Gly Leu Leu Ile Pro Val Leu Leu Glu Asp

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210

215

220

Asp Gly Gly Val Leu Val Asp Pro Glu Leu His Leu Pro Gly Glu Gly
225 230 235 240

Gln Val Leu Leu

<210> 178

<211> 75

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 14419 right: 14643 frame: 2 size(aa): 75

<400> 178

Val Thr Ser Ala Leu Ala Ser Met Ala Ser Arg Met Ser Ser Arg Ala
1 5 10 15

Pro Arg Leu Gly Gly Tyr Trp Ala Lys Leu Arg Asn Thr Ser Ser Thr
20 25 30

Pro Phe Trp Ala Met Ala Ser Cys Ala Trp Met Ala Leu Asn Val Lys
35 40 45

Ile Arg Arg Gly Ser Phe Val Thr Val Val Tyr Ser Cys Ser Arg Pro
50 55 60

Arg Ser Ala Asn Trp His Ser Thr Glu Ser Gly
65 70 75

<210> 179

<211> 53

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 14423 right: 14581 frame: -3 size(aa): 53

<400> 179

Arg Ser Ser Pro Ala Gly Ser Leu Arg Leu Ala Pro Ser Arg Arg Thr
1 5 10 15

Arg Pro Ser Pro Arg Thr Ala Trp Thr Arg Cys Ser Ser Thr Ser Pro
20 25 30

Ser Thr Arg Pro Ala Ser Gly Leu Ser Arg Thr Ser Ser Thr Pro Ser
35 40 45

Arg Pro Gly Arg Arg
50

<210> 180

<211> 73

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14561 right: 14779 frame: 3 size(aa): 73

<400> 180

Arg Ser Gly Gly Gly Ala Ser Ser Arg Trp Cys Thr Pro Ala Pro Gly
1 5 10 15

Pro Gly Arg Arg Thr Gly Thr Arg Pro Ser Arg Gly Ser Arg Gly Arg
20 25 30

Ser Thr His Arg Pro Pro Gly Gly Trp Pro Pro Gly Ser Gly Arg Ser
35 40 45

Ala Ser Ser Arg Arg Pro Gly Arg Ser Gly Arg Arg Arg Arg Ala Gly
50 55 60

Arg Ser Arg Arg Ser Ala Gly Pro Ser
65 70

<210> 181
<211> 60
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14585 right: 14764 frame: -3 size(aa): 60

<400> 181

Ser Pro Thr Ala Ala Cys Pro Thr Thr Ser Pro Gly Ser Pro Gly Ser
1 5 10 15

Ser Ala Arg Cys Gly Pro Thr Arg Ser Gly Trp Pro Thr Ala Arg Arg
20 25 30

Pro Val Ser Gly Ala Pro Pro Ala Thr Pro Thr Arg Ser Ser Ala Ser
35 40 45

Ser Pro Thr Trp Ala Trp Ser Arg Ser Thr Pro Pro
50 55 60

<210> 182
<211> 93
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14665 right: 14943 frame: -2 size(aa): 93

<400> 182

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Gly Arg Pro Gly Ser Pro Ala Pro Arg Cys Arg Pro Gly Arg Arg His
 1 5 10 15
 Pro Asp Arg Pro Gly His Ala Val Ser Asp Pro Val Asp Pro Gly Arg
 20 25 30
 Gly Val Pro Gly Leu Gln Pro Val Gly Pro Pro Arg Gly Leu Pro Leu
 35 40 45
 Leu His Arg Pro Gly Arg His Asp Gly Pro Ala Asp Arg Arg Leu Arg
 50 55 60
 Pro Ala Leu Arg Arg Arg Pro Asp Arg Pro Gly Arg Arg Leu Asp Ala
 65 70 75 80
 Asp Leu Pro Asp Pro Gly Gly Gln Pro Pro Gly Gly Arg
 85 90

<210> 183

<211> 120

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 14768 right: 15127 frame: -3 size(aa): 120

<400> 183

Arg Ser Thr Trp Pro Ser Pro Gly Arg Trp Ser Ser Gly Ser Thr Arg
 1 5 10 15
 Thr Pro Pro Ser Ser Ser Arg Ser Thr Gly Met Arg Arg Pro Pro Gly
 20 25 30
 Ala Trp Pro Gln Ala Arg Pro Ala Ala Ala Pro Ala Arg Arg Leu Ser
 35 40 45
 Pro Arg Ser Ala Ala Ala Leu Gly Arg Ser Cys Ser Val Arg Pro Ser
 50 55 60
 Gly Ile Thr Arg Ser Thr Val Ser Ser Gly Ser Ser Thr Pro Gly Pro
 65 70 75 80
 Pro Arg Thr Cys Cys Phe Gly Pro Gly Arg Ser Arg Pro Arg Gly Ala
 85 90 95
 Arg Ala Thr Ala Cys Arg Ser Thr Thr Gly Pro Thr Pro Thr Ala Pro
 100 105 110
 Pro Gly Thr Ser Arg Arg Pro Ser
 115 120

<210> 184

<211> 68

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 14783 right: 14986 frame: 3 size(aa): 68

<400> 184

Arg Pro Gly Arg Cys Ser Arg Gly Arg Pro Arg Gly Gly Pro Thr Gly
1 5 10 15

Cys Ser Pro Gly Thr Pro Arg Pro Gly Ser Thr Gly Ser Glu Thr Ala
20 25 30

Cys Pro Gly Arg Ser Gly Cys Arg Arg Pro Gly Arg His Arg Gly Ala
35 40 45

Gly Asp Pro Gly Arg Pro His Arg Thr Gly Ala Ser Gln Gly Gly Gly
50 55 60

Gly Ser Trp Arg
65

<210> 185

<211> 79

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 14932 right: 15168 frame: 2 size(aa): 79

<400> 185

Ser Arg Thr Ala Ser Pro Asn Arg Ser Val Pro Gly Arg Arg Arg Ile
1 5 10 15

Leu Ala Ile Asn Ala Glu Pro Ala Pro Leu Arg Val Glu Pro Gly Ala
20 25 30

Arg Pro Pro Ala Ala Ser Ser Ser Arg Cys Ser Trp Arg Thr Thr Ala
35 40 45

Ala Phe Trp Trp Thr Gln Ser Ser Thr Cys Arg Gly Arg Ala Arg Tyr
50 55 60

Ser Ser Arg Ser Arg Ser Met Ser Ile Thr Glu Pro Gly Pro Arg
65 70 75

<210> 186

<211> 68

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 14990 right: 15193 frame: 3 size(aa): 68

<400> 186

Thr Pro Ser Arg Arg Arg Cys Gly Ser Ser Leu Gly Pro Gly Pro Arg
1 5 10 15

Arg Pro Pro His Pro Gly Ala Pro Gly Gly Arg Arg Arg Arg Ser Gly
20 25 30
Gly Pro Arg Ala Pro Pro Ala Gly Gly Gly Pro Gly Thr Pro Leu Gly
35 40 45
Ala Gly Pro Cys Arg Ser Pro Ser Arg Gly Pro Gly Arg Ser Ala Gln
50 55 60
Gly Trp Gly Trp
65

<210> 187
<211> 113
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15132 right: 15470 frame: 1 size(aa): 113

<400> 187

Glu Pro Val His Val Asp His Arg Ala Gly Ala Gln Val Asp Pro Leu
1 5 10 15
Lys Ala Gly Ala Gly Asp Ala Gln Gly Gln His Leu Val Asp Ala Gly
20 25 30
Gly Ala Val Leu Leu Asp Gln Gly Val Ala Gly Val Gly Ala Gly Cys
35 40 45
His Ala Gln His Leu Arg Gly Leu Glu Arg Pro Gln Val Ala Gly Gln
50 55 60
Glu Pro Leu Ala Gly Ala Ala Val Leu Ala Val Asp Asp Gln Val Ala
65 70 75 80
Val Leu His Ala Ile Val Gly Gly Asn Gly Gln His Ser Thr Ala Gly
85 90 95
Val Ser Arg Pro Gly Trp Asp Ala Trp Ala Ser Pro Arg Trp Pro Ser
100 105 110
Pro

<210> 188
<211> 70
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15152 right: 15361 frame: -3 size(aa): 70

<400> 188

Ser Ser Thr Ala Ser Thr Ala Ala Pro Ala Arg Gly Ser Trp Pro Ala
1 5 10 15
Thr Trp Gly Arg Ser Arg Pro Arg Arg Cys Cys Ala Trp His Pro Ala
20 25 30
Pro Thr Pro Ala Thr Pro Trp Ser Arg Arg Thr Ala Pro Pro Ala Ser
35 40 45
Thr Arg Cys Cys Pro Trp Ala Ser Pro Ala Pro Ala Leu Ser Gly Ser
50 55 60
Thr Trp Ala Pro Ala Arg
65 70

<210> 189

<211> 80

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 15181 right: 15420 frame: -2 size(aa): 80

<400> 189

Pro Arg Pro Cys Tyr Ala Val His Ser Pro Leu Leu Ser Arg Glu Glu
1 5 10 15

Leu Gln Pro Asp Arg Arg Leu Pro Val Arg Gln His Arg Gln Gly Ala
20 25 30

Pro Gly Arg Leu Pro Gly Gly Ala Arg Gly Pro Ala Gly Ala Val His
35 40 45

Gly Thr Gln Pro Gln Arg Arg Pro His Pro Gly Arg Gly Gly Arg His
50 55 60

Arg Pro Arg Pro Gln Asp Ala Ala Pro Gly His His Gln Pro Gln Pro
65 70 75 80

<210> 190

<211> 70

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 15197 right: 15406 frame: 3 size(aa): 70

<400> 190

Cys Pro Gly Ala Ala Ser Cys Gly Arg Gly Arg Cys Arg Pro Pro Arg
1 5 10 15

Pro Gly Cys Gly Arg Arg Trp Gly Trp Val Pro Cys Thr Ala Pro Ala
20 25 30

Gly Pro Arg Ala Pro Pro Gly Ser Arg Pro Gly Ala Pro Cys Arg Cys

35

40

45

Cys Arg Thr Gly Ser Arg Arg Ser Gly Cys Ser Ser Ser Arg Asp Ser
 50 55 60

Arg Gly Glu Trp Thr Ala
 65 70

<210> 191

<211> 337

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 15380 right: 16390 frame: -3 size(aa): 337

<400> 191

Leu Pro Val Leu Glu Pro Gly Arg Gly Arg Pro Val Arg Pro Gln Ala
 1 5 10 15

Leu His Leu Arg Val Glu Glu Ala Glu Pro Gln Arg Gln Ala Leu His
 20 25 30

Leu Ala Pro Asp Pro Ala Ala Pro Glu Arg Val Pro Arg Pro Ala Pro
 35 40 45

Ala Ala Ala Pro Gly Pro Gly Pro Pro Gly Pro Cys Ala Pro Gly Ala
 50 55 60

Pro Gly Arg Cys Pro Ser Pro Ala Leu Leu Glu Pro Pro Asp Arg Pro
 65 70 75 80

Val Gly Asp Ala Pro Ala Arg Pro Gly Pro Gly Thr Arg Thr Gly Arg
 85 90 95

Ala Ala Ala Pro Ala Gly Val Glu Pro Pro Asp Pro Ala Val Gly Asp
 100 105 110

Pro Gly Ser Pro Ser Arg Ser Gly Pro Gly Pro Gly Gly Pro Gly Leu
 115 120 125

Arg Ala Arg Arg Leu Pro Gly Pro Ala Val Arg Pro Ser Gly Arg Pro
 130 135 140

Ala Ala Asp Pro Gly Pro Gly Arg Arg Ser Ala Pro Arg Arg Arg Pro
 145 150 155 160

Gly Ala Asp Arg Pro Ala Pro Gly Val Ala Val Pro Gly Ala Gly Pro
 165 170 175

Asp Arg Arg Pro Gly Arg Gly Arg Asn Pro Val Leu Thr Asp Arg Ser
 180 185 190

Gln Gly Leu Arg Lys Gly Pro Leu Pro Val Gln Thr Thr Pro Pro Leu
 195 200 205

His Pro Arg Glu Ser Gln His Pro Arg Arg Arg Gln Ala Ala Ser Asp
 210 215 220

Arg Tyr Gln Ala Ala Arg Ile His Arg Ala Ser Lys Arg Gly Arg Asp
 225 230 235 240
 Pro Gly His Gly Arg Leu Ala His Arg Arg Pro Arg Gln Ile His Pro
 245 250 255
 Pro Arg Gln Arg Gln Pro Gly Ser Pro Cys Cys His Pro Pro Gly His
 260 265 270
 Pro Gln His Leu Gly Gly Arg Pro Ala Cys His Asp Pro Gly Phe Leu
 275 280 285
 Gly Leu Asp Arg Glu Ala Pro Ala Asp Thr Pro Glu Leu His Pro Gly
 290 295 300
 Pro Val Gln Gly Glu Gly His Arg Gly Glu Ala Gln Ala Ser His Pro
 305 310 315 320
 Gly Arg Leu Thr Pro Ala Val Leu Cys Cys Pro Phe Pro Pro Thr Ile
 325 330 335

Ala

<210> 192
 <211> 386
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> >New ORF = left: 15391 right: 16548 frame: 2 size(aa): 386

<400> 192

Gly Gly Met Asp Ser Ile Ala Arg Pro Gly Ser Ala Val Gln Asp Gly
 1 5 10 15
 Thr Pro Gly Pro Leu Leu Asp Gly Leu Leu Leu Glu Leu Ala Pro Asp
 20 25 30
 Val Val Gln Val Cys Leu Pro Glu Leu Leu Gly Pro Val Pro Lys Thr
 35 40 45
 Leu Gly His Gly Arg Gln Ala Ala Leu Pro Gly Ala Val Asp Asp Pro
 50 55 60
 Ala Asp Asp Ser Met Glu Ile Pro Ala Ala Val Val Ser Ala Asp Glu
 65 70 75 80
 Phe Val Glu Ala Val Asp Ala Pro Gly Asp His Ala Gln Asp Leu Gly
 85 90 95
 Leu Ser Leu Lys Leu Gly Val Ser Ser Gln Leu Gly Ser Asp Leu Thr
 100 105 110
 Gln Pro Asp Gly Gly Val Gly Val Glu Thr His Gly Gly Gly Val Val
 115 120 125

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Glu Trp Phe Val Arg Gly Gly Ala Pro Cys Gly Ala Pro Gly Ile Asp
 130 135 140
 Arg Ser Glu Arg Asp Phe Val Leu Ala Gln Asp Ala Gly Arg Gly Arg
 145 150 155 160
 Arg Leu Gly Leu Pro His Arg Gly Leu Ala Gly Arg His Arg Gly Ala
 165 170 175
 Cys Val Glu Arg Cys Ala Asp Leu Gly Arg Gly Arg Leu Arg Gly Gly
 180 185 190
 Arg Arg Gly Val Arg Leu Ala Arg Gly Ala Ala Leu Pro Val Gly Arg
 195 200 205
 Gly Arg Arg Gly Arg Gly Leu Ser Gly Arg Gly Ser Arg Gly His Pro
 210 215 220
 Leu Leu Gly Leu Gly Val Pro His Arg Leu Gly Arg Leu Arg Gly Arg
 225 230 235 240
 Cys Gly Cys Arg Gly Arg Gly Gly Leu Gly Arg His Pro Leu Ala Gly
 245 250 255
 Leu Gly Val Pro Val Gly Leu Gly Arg Gly Thr Gly Arg Gly Arg Leu
 260 265 270
 Gly Arg Met Gly Leu Gly Gly Arg Gly Leu Ala Leu Leu Leu Gly Gln
 275 280 285
 Ala Glu Glu Arg Val Pro Gly Arg Leu Asp Leu Glu Arg Asp Val Arg
 290 295 300
 Leu Ala Val Ala Ala Leu Leu Leu Pro Pro Gly Asp Val Glu Leu Glu
 305 310 315 320
 Ala Val Leu Val Gly Leu Gly Pro Val Arg Glu Gln Val Val Ser Glu
 325 330 335
 Gly Gly Asp Val Leu Gly Arg Asp Gly Ala Gly Ala Ala Val Val Asp
 340 345 350
 Pro Val Leu Ala Val Val Asp Glu Gln Gly Ala Val Glu Gly Gly Gln
 355 360 365
 Leu Gly Gly Leu Gly Leu Gly Leu Gly Leu Gly Leu Ala Val Gly Gly
 370 375 380
 Leu His
 385

<210> 193

<211> 134

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 15424 right: 15825 frame: -2 size(aa): 134

<400> 193

Pro Ile Asp Pro Arg Gly Ser Ala Arg Gly Pro Ser Pro Tyr Lys Pro
1 5 10 15

Leu His His Ser Thr Pro Val Ser Leu Asn Thr His Ala Ala Val Arg
20 25 30

Leu Arg Gln Ile Ala Thr Lys Leu Arg Gly Tyr Thr Glu Leu Gln Arg
35 40 45

Glu Ala Glu Ile Leu Gly Met Val Ala Trp Arg Ile Asp Gly Leu Asp
50 55 60

Lys Phe Ile Arg Arg Asp Asn Gly Ser Arg Asp Leu His Ala Val Ile
65 70 75 80

Arg Arg Val Ile His Ser Thr Trp Glu Gly Gly Leu Pro Ala Met Thr
85 90 95

Gln Gly Phe Trp Asp Trp Thr Glu Lys Leu Arg Gln Thr His Leu Asn
100 105 110

Tyr Ile Arg Gly Gln Phe Lys Glu Lys Ala Ile Glu Glu Arg Pro Arg
115 120 125

Arg Pro Ile Leu Asp Gly
130

<210> 194

<211> 65

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 15491 right: 15685 frame: 3 size(aa): 65

<400> 194

Phe Arg Cys Val Cys Arg Ser Phe Ser Val Gln Ser Gln Lys Pro Trp
1 5 10 15

Val Met Ala Gly Arg Pro Pro Ser Gln Val Leu Trp Met Thr Arg Arg
20 25 30

Met Thr Ala Trp Arg Ser Arg Leu Pro Leu Ser Arg Arg Met Asn Leu
35 40 45

Ser Arg Pro Ser Met Arg Gln Ala Thr Met Pro Arg Ile Ser Ala Ser
50 55 60

Leu
65

<210> 195

<211> 71

<212> PRT

<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15543 right: 15755 frame: -1 size(aa): 71

<400> 195

Val Ser Thr Pro Thr Pro Pro Ser Gly Cys Val Arg Ser Leu Pro Ser
1 5 10 15
Cys Glu Asp Thr Pro Ser Phe Lys Glu Arg Pro Arg Ser Trp Ala Trp
20 25 30
Ser Pro Gly Ala Ser Thr Ala Ser Thr Asn Ser Ser Ala Glu Thr Thr
35 40 45
Ala Ala Gly Ile Ser Met Leu Ser Ser Ala Gly Ser Ser Thr Ala Pro
50 55 60
Gly Arg Ala Ala Cys Leu Pro
65 70

<210> 196
<211> 94
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15725 right: 16006 frame: 3 size(aa): 94

<400> 196

Arg Ser Leu Thr Ala Ala Trp Val Leu Arg Leu Thr Gly Val Glu Trp
1 5 10 15
Trp Ser Gly Leu Tyr Gly Glu Gly Pro Leu Ala Glu Pro Leu Gly Ser
20 25 30
Ile Gly Gln Asn Gly Ile Ser Ser Ser Pro Arg Thr Pro Val Gly Ala
35 40 45
Gly Ala Trp Asp Cys His Thr Gly Gly Trp Pro Val Gly Thr Gly Ala
50 55 60
Pro Ala Trp Ser Ala Ala Pro Thr Trp Ala Gly Val Gly Cys Gly Ala
65 70 75 80
Ala Gly Gly Ala Tyr Gly Trp Pro Gly Glu Pro Pro Cys Pro
85 90

<210> 197
<211> 198
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15753 right: 16346 frame: 1 size(aa): 198

<400> 197

Asp Ser Arg Gly Trp Ser Gly Gly Val Val Cys Thr Gly Arg Gly Pro
1 5 10 15
Leu Arg Ser Pro Trp Asp Arg Ser Val Arg Thr Gly Phe Arg Pro Arg
20 25 30
Pro Gly Arg Arg Ser Gly Pro Ala Pro Gly Thr Ala Thr Pro Gly Ala
35 40 45
Gly Arg Ser Ala Pro Gly Arg Leu Arg Gly Ala Leu Arg Arg Pro Gly
50 55 60
Pro Gly Ser Ala Ala Gly Arg Pro Glu Gly Arg Thr Ala Gly Pro Gly
65 70 75 80
Ser Arg Leu Ala Arg Arg Pro Gly Pro Pro Gly Pro Gly Pro Glu Arg
85 90 95
Glu Gly Leu Pro Gly Ser Pro Thr Ala Gly Ser Gly Gly Ser Thr Pro
100 105 110
Ala Gly Ala Ala Ala Arg Pro Val Arg Val Pro Gly Pro Gly Arg Ala
115 120 125
Gly Ala Ser Pro Thr Gly Arg Ser Gly Gly Ser Ser Arg Ala Gly Glu
130 135 140
Gly His Arg Pro Gly Ala Pro Gly Ala His Gly Pro Gly Gly Pro Gly
145 150 155 160
Pro Gly Ala Ala Ala Gly Ala Gly Arg Gly Thr Arg Ser Gly Ala Ala
165 170 175
Gly Ser Gly Ala Arg Cys Lys Ala Cys Arg Cys Gly Ser Ala Ser Ser
180 185 190
Thr Arg Arg Cys Arg Ala
195

<210> 198

<211> 99

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 15759 right: 16055 frame: -1 size(aa): 99

<400> 198

Pro Arg Glu Pro Leu Pro Leu Arg Pro Arg Pro Arg Arg Pro Arg Pro
1 5 10 15
Thr Gly Lys Ala Ala Pro Arg Ala Ser Arg Thr Pro Leu Arg Pro Pro
20 25 30
Arg Ser Arg Pro Arg Pro Arg Ser Ala Gln Arg Ser Thr Gln Ala Pro

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35 40 45

Arg Cys Arg Pro Ala Ser Pro Arg Cys Gly Ser Pro Arg Arg Arg Pro
50 55 60

Arg Pro Ala Ser Trp Ala Arg Thr Lys Ser Arg Ser Asp Arg Ser Ile
65 70 75 80

Pro Gly Ala Pro Gln Gly Ala Pro Pro Arg Thr Asn His Ser Thr Thr
85 90 95

Pro Pro Pro

<210> 199

<211> 257

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 15829 right: 16599 frame: -2 size(aa): 257

<400> 199

Arg Val Arg Pro Leu Ser Arg Thr Thr Thr Thr Pro Asn Arg Ser Leu
1 5 10 15

Ser Met Gln Ala Pro Tyr Gly Gln Pro Gln Pro Gln Pro Gln Ala Gln
20 25 30

Ala Pro Gln Leu Pro Ala Leu Asn Gly Ser Leu Phe Val Asp Asp Ser
35 40 45

Gln Asn Arg Ile Asp Tyr Ser Gly Ser Cys Thr Ile Thr Ala Gln Asp
50 55 60

Val Ala Ala Leu Ala Asp Tyr Leu Phe Ser Asn Arg Ala Glu Ala Asp
65 70 75 80

Gln Tyr Gly Leu Lys Leu Tyr Ile Ser Gly Trp Lys Lys Gln Ser Arg
85 90 95

Asn Gly Lys Pro Tyr Ile Ser Leu Gln Ile Gln Pro Pro Arg Asn Ala
100 105 110

Phe Leu Gly Leu Pro Gln Gln Gln Arg Gln Ala Pro Ala Pro Gln Ala
115 120 125

His Ala Pro Gln Ala Pro Pro Ala Gly Ala Pro Pro Gln Pro Tyr Trp
130 135 140

Asn Pro Gln Thr Gly Gln Trp Val Thr Pro Gln Pro Ala Pro Ala Pro
145 150 155 160

Ala Pro Ala Pro Ala Ala Gln Pro Pro Gln Pro Val Trp Asn Pro Gln
165 170 175

Thr Gln Gln Trp Val Thr Pro Gly Ala Pro Pro Ala Gln Ala Pro Ala
180 185 190

Pro Ala Ala Pro Ala Tyr Gly Gln Gly Gly Ser Pro Gly Gln Pro Tyr
195 200 205

Ala Pro Pro Ala Ala Pro Gln Pro Thr Pro Ala Gln Val Gly Ala Ala
210 215 220

Leu His Ala Gly Ala Pro Val Pro Thr Gly Gln Pro Pro Val Trp Gln
225 230 235 240

Ser Gln Ala Pro Ala Pro Thr Gly Val Leu Gly Glu Asp Glu Ile Pro
245 250 255

Phe

<210> 200
<211> 146
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16146 right: 16583 frame: -1 size(aa): 146

<400> 200

Ala Gly Pro Arg Pro His Pro Thr Ala Leu Phe Gln Cys Lys Pro Pro
1 5 10 15

Thr Ala Ser Pro Ser Pro Ser Pro Arg Pro Arg Pro Pro Ser Cys Pro
20 25 30

Pro Ser Thr Ala Pro Cys Ser Ser Thr Thr Ala Arg Thr Gly Ser Thr
35 40 45

Thr Ala Ala Pro Ala Pro Ser Arg Pro Arg Thr Ser Pro Pro Ser Leu
50 55 60

Thr Thr Cys Ser Arg Thr Gly Pro Arg Pro Thr Ser Thr Ala Ser Ser
65 70 75 80

Ser Thr Ser Pro Gly Gly Arg Ser Arg Ala Ala Thr Ala Ser Leu Thr
85 90 95

Ser Arg Ser Arg Ser Ser Arg Pro Gly Thr Arg Ser Ser Ala Cys Pro
100 105 110

Ser Ser Ser Ala Arg Pro Arg Pro Pro Arg Pro Met Arg Pro Arg Arg
115 120 125

Pro Arg Pro Val Pro Leu Pro Ser Pro Thr Gly Thr Pro Arg Pro Ala
130 135 140

Ser Gly
145

<210> 201
<211> 111
<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 16394 right: 16726 frame: -3 size(aa): 111

<400> 201

Arg Pro Ser Arg Arg Arg Pro Ser Pro Arg Ser Thr Ala Gly Thr Arg
1 5 10 15

Thr Thr Arg Ser Ala Ser Ala Pro Pro Gly Arg Arg Pro Arg Ala Arg
20 25 30

Pro Arg Trp Pro Ser Ser Arg Ala Pro Leu Thr Arg Ser Ala Ser Glu
35 40 45

Pro Asp His Asp His Thr Gln Pro Leu Ser Phe Asn Ala Ser Pro Leu
50 55 60

Arg Pro Ala Pro Ala Pro Ala Pro Gly Pro Gly Pro Pro Ala Ala Arg
65 70 75 80

Pro Gln Arg Leu Pro Val Arg Arg Arg Gln Pro Glu Pro Asp Arg Leu
85 90 95

Gln Arg Leu Leu His His His Gly Pro Gly Arg Arg Arg Pro Arg
100 105 110

<210> 202

<211> 251

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 16485' right: 17237 frame: 1 size(aa): 251

<400> 202

Gly Arg Ala Ala Gly Gly Pro Gly Pro Gly Ala Gly Ala Gly Ala Gly
1 5 10 15

Arg Arg Gly Leu Ala Leu Lys Glu Ser Gly Trp Val Trp Ser Trp Ser
20 25 30

Gly Ser Glu Ala Glu Arg Val Ser Gly Ala Leu Leu Asp Gly Gln Arg
35 40 45

Gly Arg Ala Leu Gly Arg Arg Pro Gly Gly Ala Glu Ala Glu Arg Val
50 55 60

Val Arg Val Pro Ala Val Leu Arg Gly Asp Gly Arg Arg Arg Leu Gly
65 70 75 80

Arg His Ala Val Leu Ser Val Gly Arg Gly His Ala Glu Asp Gly His
85 90 95

His Ser Val Pro Ala Lys Val Arg Asp Arg Gly Ala Gln Leu Leu Ile

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100 105 110

Gly Gly Val Ala Leu Gly Arg Leu Val Glu Gln Asp Asp Arg Glu Leu
115 120 125

Arg Gly Asp Ala Gly Pro Gly Leu Val Val Glu Pro Gly Gly Glu Asp
130 135 140

Gly Asp Pro Gly Leu Trp Ala Pro Val Lys Gly Leu Asp Asp Arg Gln
145 150 155 160

Pro Glu Leu Val Arg Leu Pro Asp Ser Leu Glu Asp Gly Ala Gln Val
165 170 175

Asp Val Gly Ala Glu Ala Ala Val Gly Gly Ala Leu Asp Asp Ala Val
180 185 190

Leu Gly Leu Glu Leu Gly Gln Arg Leu Glu Gln Glu Arg His Pro Trp
195 200 205

Val Ser Gly Gly His Arg Gly Thr Arg Arg Trp Cys Ser Arg Arg Arg
210 215 220

Ala Arg Ala Asp Pro Gly Arg Thr Ala Ala Gly Ala Arg Arg Ser Pro
225 230 235 240

Gly Gly Arg Ser Arg Trp Ser Leu Gln Arg Arg
245 250

<210> 203

<211> 55

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 16538 right: 16702 frame: 3 size(aa): 55

<400> 203

Gly Ala Cys Ile Glu Arg Glu Arg Leu Gly Val Val Val Val Arg Leu
1 5 10 15

Arg Gly Arg Thr Arg Gln Arg Arg Pro Ala Gly Trp Pro Ala Gly Ala
20 25 30

Gly Pro Gly Ala Ala Ala Arg Arg Gly Arg Gly Arg Thr Arg Arg Ser
35 40 45

Gly Pro Arg Cys Ala Ala Gly
50 55

<210> 204

<211> 88

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 16552 right: 16815 frame: 2 size(aa): 88

<400> 204

Lys Arg Ala Val Gly Cys Gly Arg Gly Pro Ala Gln Arg Pro Asn Ala
 1 5 10 15
 Ser Ala Ala Pro Cys Trp Met Ala Ser Gly Gly Gly Pro Trp Gly Gly
 20 25 30
 Gly Pro Glu Gly Pro Arg Pro Asn Ala Ser Phe Gly Ser Pro Leu Cys
 35 40 45
 Cys Gly Val Met Ala Ala Val Gly Trp Gly Val Met Leu Ser Ser Val
 50 55 60
 Ser Ala Glu Ala Met Pro Arg Met Ala Ile Thr Ala Tyr Arg Arg Arg
 65 70 75 80
 Tyr Val Ile Val Ala Pro Ser Cys
 85

<210> 205

<211> 212

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 16587 right: 17222 frame: -1 size(aa): 212

<400> 205

Pro Thr Arg Ser Ala Ser Arg Arg Ser Pro Ser Thr Cys Ser Ser Thr
 1 5 10 15
 Ala Arg Ile Ser Pro Gly Pro Pro Thr Arg Thr Pro Ser Ser Ser Ser
 20 25 30
 Pro Met Thr Ser Ala Asp Pro Arg Met Pro Leu Leu Leu Lys Ala Leu
 35 40 45
 Ala Gln Phe Gln Ala Glu His Ser Val Val Glu Arg Thr Ala Asp Gly
 50 55 60
 Ser Phe Gly Pro Tyr Val Asp Leu Ser Ala Val Leu Lys Ala Val Arg
 65 70 75 80
 Glu Ala Asn Lys Leu Gly Leu Ser Ile Val Gln Thr Phe Asp Arg Gly
 85 90 95
 Pro Glu Pro Gly Val Ala Val Leu Ser Thr Trp Leu Tyr His Glu Ser
 100 105 110
 Gly Ala Cys Val Ser Ser Glu Leu Pro Val Val Leu Phe Tyr Glu Pro
 115 120 125
 Thr Lys Arg Asn Thr Ser Asn Gln Gln Leu Gly Ala Thr Ile Thr Tyr
 130 135 140

Leu Arg Arg Tyr Ala Val Met Ala Ile Leu Gly Met Ala Ser Ala Asp
145 150 155 160
Thr Glu Asp Ser Met Thr Pro Gln Pro Thr Ala Ala Ile Thr Pro Gln
165 170 175
His Ser Gly Asp Pro Asn Asp Ala Phe Gly Leu Gly Pro Ser Gly Pro
180 185 190
Pro Pro Gln Gly Pro Pro Pro Leu Ala Ile Gln Gln Gly Ala Ala Asp
195 200 205
Ala Phe Gly Leu
210

<210> 206

<211> 67

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 16741 right: 16941 frame: -2 size(aa): 67

<400> 206

Pro Gly Pro Arg Ala Arg Gly Arg Arg Pro Leu His Leu Ala Leu Pro
1 5 10 15
Arg Val Arg Gly Leu Arg Leu Leu Gly Ala Pro Gly Arg Pro Val Leu
20 25 30
Arg Ala Asp Gln Ala Gln His Leu Gln Ser Ala Ala Gly Arg His Asp
35 40 45
His Val Pro Ser Pro Val Arg Cys Asp Gly His Pro Arg His Gly Leu
50 55 60
Gly Arg His
65

<210> 207

<211> 77

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 16775 right: 17005 frame: -3 size(aa): 77

<400> 207

Ala Pro Ser Ser Arg Leu Ser Gly Arg Arg Thr Ser Ser Gly Cys Arg
1 5 10 15
Ser Ser Arg Pro Leu Thr Gly Ala Gln Ser Pro Gly Ser Pro Ser Ser
20 25 30
Pro Pro Gly Ser Thr Thr Ser Pro Gly Pro Ala Ser Pro Arg Ser Ser

35 40 45

Arg Ser Ser Cys Ser Thr Ser Arg Pro Ser Ala Thr Pro Pro Ile Ser
50 55 60

Ser Trp Ala Pro Arg Ser Arg Thr Phe Ala Gly Thr Leu
65 70 75

<210> 208
<211> 65
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16799 right: 16993 frame: 3 size(aa): 65

<400> 208

Ser Trp Arg Pro Ala Ala Asp Trp Arg Cys Cys Ala Trp Ser Ala Arg
1 5 10 15

Arg Thr Gly Arg Pro Gly Ala Pro Arg Arg Arg Arg Pro Arg Thr Arg
20 25 30

Gly Arg Ala Arg Trp Arg Gly Arg Arg Pro Arg Ala Leu Gly Pro Gly
35 40 45

Gln Arg Ser Gly Arg Ser Thr Ala Arg Ala Cys Ser Pro Pro Gly Gln
50 55 60

Pro
65

<210> 209
<211> 55
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16945 right: 17109 frame: -2 size(aa): 55

<400> 209

Pro Thr Asp Ala Ala Pro Ala Gln Gly Ala Gly Pro Val Pro Gly Arg
1 5 10 15

Ala Gln Arg Arg Arg Ala His Arg Arg Arg Gln Leu Arg Pro Leu Arg
20 25 30

Arg Pro Glu Arg Arg Pro Gln Gly Cys Pro Gly Gly Glu Gln Ala Arg
35 40 45

Ala Val Asp Arg Pro Asp Leu
50 55

<210> 210
<211> 190

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 17020 right: 17589 frame: 2 size(aa): 190

<400> 210

Gly Pro Lys Leu Pro Ser Ala Val Arg Ser Thr Thr Leu Cys Ser Ala
1 5 10 15
Trp Asn Trp Ala Ser Ala Leu Ser Arg Ser Gly Ile Arg Gly Ser Ala
20 25 30
Glu Val Ile Gly Glu Leu Asp Asp Gly Val Leu Val Gly Gly Pro Gly
35 40 45
Leu Ile Leu Ala Val Leu Leu Gln Val Leu Gly Asp Leu Leu Glu Ala
50 55 60
Asp Leu Val Gly His Cys Ser Gly Val Asp Gly Ile Val Arg Glu Pro
65 70 75 80
Asp Asp Pro Gly Gly Val Gly Arg Leu Arg Leu Glu Gln His Gln Gln
85 90 95
Leu Pro Leu Gly Arg Thr Ala Gly Gln Ala Glu Asp Leu Glu Val Val
100 105 110
Gly Arg Leu Met Ile Val Ala Val Val Pro Asp Arg Pro Leu Glu Leu
115 120 125
Ala Ile Ala Gly Val Gly Arg Gly Leu Asp Val Asp Gln Pro Pro Gly
130 135 140
Ala Gly Pro Arg Val Glu Pro Asp Leu Glu Leu Gln Ala Arg Gly Arg
145 150 155 160
Val Asp Arg Glu Asp Arg Leu Leu Gly Gly Asp His Arg Leu Gly Asp
165 170 175
Ala Leu Asn Asp Gly Val Leu Glu Gly Asp Val Pro His Gly
180 185 190

<210> 211

<211> 347

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 17113 right: 18153 frame: -2 size(aa): 347

<400> 211

Ser Leu Tyr Arg Gly Arg Glu Pro Pro Gln Ser His Asn Asn Arg Gly
1 5 10 15

Pro Phe Ser Arg Asp Leu Pro Pro Leu Ala Pro Arg Met Ala Leu Leu
 20 25 30
 Pro Trp Pro Ser Ala Arg His Pro Tyr Cys Tyr Leu Pro Ala Arg Trp
 35 40 45
 Asp Pro Gly Ala Tyr Asp Pro Gly Val Pro Gly Pro Val Pro Gly Asp
 50 55 60
 Pro Met Thr Gln Ala Pro Gln Ala Pro Glu Pro Thr Pro Glu Glu Leu
 65 70 75 80
 Gln Pro Gln Pro Pro Lys Leu Thr Asn Glu Gln His His Ala His Pro
 85 90 95
 Ala Ile Gly Ser Ser Asp Leu Lys Leu Phe Arg Arg Ser Pro Leu His
 100 105 110
 Tyr Trp His Arg Lys Tyr Ser Pro Ser Phe Val Pro Lys Pro Pro Ser
 115 120 125
 Ala Ser Met Gln Met Gly Thr Ala Leu His Ile Ala Leu Leu Glu Pro
 130 135 140
 Glu Arg Phe Glu Lys Ala Val Gly Gln Ala Leu Thr Thr Pro Lys Thr
 145 150 155 160
 Ser Lys Ala Ala Lys Glu Ala His Ala Glu His Asp Ala Lys Tyr Glu
 165 170 175
 Leu Thr Ile Pro Pro Ala Ala Tyr Gln Gln Val Leu Ala Met Arg Asp
 180 185 190
 Val Ala Leu Lys His Pro Val Ile Lys Arg Ile Ala Glu Thr Val Val
 195 200 205
 Ser Thr Glu Glu Ser Val Phe Ala Ile Asp Pro Thr Thr Gly Leu Glu
 210 215 220
 Leu Lys Ile Arg Leu Asp Ala Trp Thr Ser Pro Gly Trp Leu Ile Asp
 225 230 235 240
 Val Lys Thr Thr Ala Asp Ala Ser Asn Gly Lys Phe Lys Trp Ser Ile
 245 250 255
 Arg Asp Tyr Gly Tyr Asp His Gln Ala Ala Tyr Tyr Leu Lys Val Leu
 260 265 270
 Arg Leu Ala Gly Arg Pro Pro Gln Gly Gln Leu Leu Val Leu Leu Glu
 275 280 285
 Ser Glu Ala Pro His Ala Ala Arg Val Val Arg Leu Pro Asp Asp Ala
 290 295 300
 Ile Asn Ala Ala Ala Val Thr Asn Glu Ile Cys Leu Gln Glu Ile Ala
 305 310 315 320
 Glu His Leu Gln Gln Tyr Gly Gln Asp Gln Pro Trp Pro Ala Tyr Glu
 325 330 335
 Asn Thr Ile Val Glu Phe Pro Tyr Asp Leu Arg

340

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345

<210> 212
<211> 143
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17123 right: 17551 frame: -3 size(aa): 143

<400> 212

Ala His Arg Arg Asp Gly Gly Leu His Arg Gly Val Gly Leu Arg Asp
1 5 10 15
Arg Pro Asp His Gly Pro Gly Ala Gln Asp Pro Ala Arg Arg Val Asp
20 25 30
Gln Pro Arg Val Ala Asp Arg Arg Gln Asp His Gly Arg Arg Gln Gln
35 40 45
Trp Gln Val Gln Val Val Asp Pro Gly Leu Arg Leu Arg Ser Ser Gly
50 55 60
Gly Leu Leu Pro Gln Gly Pro Pro Pro Gly Arg Pro Ser Ala Pro Gly
65 70 75 80
Ala Val Ala Gly Ala Ala Arg Val Gly Gly Ala Pro Arg Arg Pro Gly
85 90 95
Arg Pro Ala Pro Gly Arg Cys His Gln Arg Arg Cys Ser Asp Gln Arg
100 105 110
Asp Leu Pro Pro Gly Asp Arg Arg Ala Pro Ala Ala Val Arg Pro Gly
115 120 125
Ser Ala Leu Ala Arg Leu Arg Glu His His Arg Arg Val Pro Leu
130 135 140

<210> 213
<211> 61
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17168 right: 17350 frame: 3 size(aa): 61

<400> 213

Ser Trp Pro Tyr Cys Cys Arg Cys Ser Ala Ile Ser Trp Arg Gln Ile
1 5 10 15
Ser Leu Val Thr Ala Ala Ala Leu Met Ala Ser Ser Gly Ser Arg Thr
20 25 30
Thr Arg Ala Ala Trp Gly Ala Ser Asp Ser Ser Ser Thr Ser Asn Cys
35 40 45

Pro Trp Gly Gly Arg Pro Ala Arg Arg Arg Thr Leu Arg
50 55 60

<210> 214

<211> 71

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 17226 right: 17438 frame: -1 size(aa): 71

<400> 214

Ser Thr Ser Arg Pro Arg Pro Thr Pro Ala Met Ala Ser Ser Ser Gly
1 5 10 15

Arg Ser Gly Thr Thr Ala Thr Ile Ile Arg Arg Pro Thr Thr Ser Arg
20 25 30

Ser Ser Ala Trp Pro Ala Val Arg Pro Arg Gly Ser Cys Trp Cys Cys
35 40 45

Ser Ser Arg Arg Arg Pro Thr Pro Pro Gly Ser Ser Gly Ser Arg Thr
50 55 60

Met Pro Ser Thr Pro Leu Gln
65 70

<210> 215

<211> 74

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 17381 right: 17602 frame: 3 size(aa): 74

<400> 215

Ser Arg Ile Asp His Leu Asn Leu Pro Leu Leu Ala Ser Ala Val Val
1 5 10 15

Leu Thr Ser Ile Ser His Pro Gly Leu Val His Ala Ser Ser Arg Ile
20 25 30

Leu Ser Ser Arg Pro Val Val Gly Ser Ile Ala Lys Thr Asp Ser Ser
35 40 45

Val Glu Thr Thr Val Ser Ala Met Arg Leu Met Thr Gly Cys Leu Arg
50 55 60

Ala Thr Ser Arg Met Ala Asn Thr Cys Trp
65 70

<210> 216

<211> 231

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 17555 right: 18247 frame: -3 size(aa): 231

<400> 216

Trp Ser Gly Ser Gly Arg Arg Pro Gly Pro Gly Thr Gly Gly Arg Pro
1 5 10 15

Tyr Ser Gln Arg Ala Val Leu Trp Arg Ala Ser Arg His Val Ile Val
20 25 30

Val Val Pro Gly Ala Gly Ala Pro Thr Ile Pro Gln Gln Pro Trp Thr
35 40 45

Phe Leu Lys Arg Pro Thr Ala Ser Gly Thr Ser Asp Gly Ala Ser Thr
50 55 60

Val Ala Leu Gly Ala Ala Pro Val Leu Leu Ser Pro Arg Lys Val Gly
65 70 75 80

Pro Arg Cys Leu Arg Pro Arg Ser Ser Gly Thr Cys Ala Gly Arg Pro
85 90 95

Asp Asp Pro Gly Thr Pro Gly Pro Gly Ala His Pro Gly Gly Ala Pro
100 105 110

Ala Pro Ala Pro Gln Ala His Gln Arg Ala Ala Pro Arg Pro Pro Arg
115 120 125

Asp Arg Ile Glu Arg Pro Gln Ala Leu Pro Pro Val Ala Ala Pro Leu
130 135 140

Leu Ala Pro Gln Val Gln Pro Leu Val Arg Thr Glu Ala Ala Leu Gly
145 150 155 160

Leu Asp Ala Asp Gly Asp Arg Pro Ala His Arg Pro Ala Arg Ala Gly
165 170 175

Ala Leu Arg Glu Gly Gly Arg Ser Gly Ala Asp Asp Ala Gln Asp Val
180 185 190

Glu Gly Gly Gln Gly Gly Pro Arg Arg Ala Arg Arg Gln Val Arg Ala
195 200 205

His Asp Pro Pro Gly Gly Leu Pro Ala Gly Val Ser His Ala Gly Arg
210 215 220

Arg Pro Gln Ala Pro Arg His
225 230

<210> 217

<211> 155

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 17593 right: 18057 frame: 2 size(aa): 155

<400> 217

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His Leu Leu Val Gly Arg Arg Gly Asp Arg Glu Leu Val Leu Gly Val
1          5          10          15
Val Leu Gly Val Gly Leu Leu Gly Arg Leu Arg Arg Leu Gly Arg Arg
          20          25          30
Gln Arg Leu Thr Asp Arg Leu Leu Glu Ala Leu Arg Leu Glu Gln Gly
          35          40          45
Asp Val Gln Gly Gly Pro His Leu His Arg Gly Arg Gly Arg Leu Arg
          50          55          60
Tyr Glu Arg Gly Ala Val Leu Ala Val Pro Val Val Glu Arg Arg Pro
65          70          75          80
Ala Glu Glu Leu Glu Val Ala Arg Ser Asp Arg Gly Val Gly Val Val
          85          90          95
Leu Leu Val Gly Glu Leu Gly Gly Leu Gly Leu Glu Leu Leu Arg Gly
          100          105          110
Gly Leu Arg Gly Leu Gly Cys Leu Gly His Arg Val Ala Arg His Arg
          115          120          125
Ser Arg Asn Ser Trp Val Val Ser Thr Trp Val Pro Pro Cys Gly Glu
          130          135          140
Ile Ala Val Arg Val Pro Arg Arg Gly Pro Arg
145          150          155

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<210> 218

<211> 73

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 17625 right: 17843 frame: 1 size(aa): 73

<400> 218

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Ala Arg Thr Trp Arg Arg Ala Arg Arg Gly Pro Pro Trp Pro Pro Ser
1          5          10          15
Thr Ser Trp Ala Ser Ser Ala Pro Asp Arg Pro Pro Ser Arg Ser Ala
          20          25          30
Pro Ala Arg Ala Gly Arg Cys Ala Gly Arg Ser Pro Ser Ala Ser Arg
          35          40          45
Pro Arg Ala Ala Ser Val Arg Thr Arg Gly Cys Thr Cys Gly Ala Ser
          50          55          60
Ser Gly Ala Ala Thr Gly Gly Arg Ala
65          70

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<210> 219
<211> 88
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17691 right: 17954 frame: -1 size(aa): 88

<400> 219

Pro Arg His Pro Arg Pro Arg Ser Pro Pro Arg Arg Ser Ser Ser Pro
1 5 10 15
Ser Pro Pro Ser Ser Pro Thr Ser Ser Thr Thr Pro Thr Pro Arg Ser
20 25 30
Asp Arg Ala Thr Ser Ser Ser Ser Ala Gly Arg Arg Ser Thr Thr Gly
35 40 45
Thr Ala Ser Thr Ala Pro Arg Ser Tyr Arg Ser Arg Pro Arg Pro Arg
50 55 60
Cys Arg Trp Gly Pro Pro Cys Thr Ser Pro Cys Ser Ser Arg Ser Ala
65 70 75 80
Ser Arg Arg Arg Ser Val Arg Arg
85

<210> 220
<211> 59
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17819 right: 17995 frame: 3 size(aa): 59

<400> 220

Trp Ser Gly Asp Arg Arg Lys Ser Leu Arg Ser Leu Asp Pro Ile Ala
1 5 10 15
Gly Trp Ala Trp Cys Cys Ser Leu Val Ser Leu Gly Gly Trp Gly Trp
20 25 30
Ser Ser Ser Gly Val Gly Ser Gly Ala Trp Gly Ala Trp Val Ile Gly
35 40 45
Ser Pro Gly Thr Gly Pro Gly Thr Pro Gly Ser
50 55

<210> 221
<211> 101
<212> PRT
<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 17895 right: 18197 frame: 1 size(aa): 101

<400> 221

Ala Trp Gly Ala Gly Ala Gly Ala Pro Pro Gly Trp Ala Pro Gly Pro
1 5 10 15
Gly Val Pro Gly Ser Ser Gly Arg Pro Ala Gln Val Pro Glu Leu Leu
20 25 30
Gly Arg Lys His Leu Gly Pro Thr Leu Arg Gly Asp Ser Ser Thr Gly
35 40 45
Ala Ala Pro Arg Ala Thr Val Glu Ala Pro Ser Glu Val Pro Glu Ala
50 55 60
Val Gly Leu Leu Arg Lys Val His Gly Cys Cys Gly Ile Val Gly Ala
65 70 75 80
Pro Ala Pro Gly Thr Thr Thr Ile Thr Cys Arg Leu Ala Arg His Asn
85 90 95
Thr Ala Arg Cys Glu
100

<210> 222

<211> 70

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 17958 right: 18167 frame: -1 size(aa): 70

<400> 222

Pro Ala Cys Tyr Ser Arg Cys Thr Gly Gly Gly Ser Pro His Asn Pro
1 5 10 15
Thr Thr Thr Val Asp Leu Ser Gln Glu Thr Tyr Arg Leu Trp His Leu
20 25 30
Gly Trp Arg Phe Tyr Arg Gly Pro Arg Arg Gly Thr Arg Thr Ala Ile
35 40 45
Ser Pro Gln Gly Gly Thr Gln Val Leu Thr Thr Gln Glu Phe Arg Asp
50 55 60
Leu Cys Arg Ala Thr Arg
65 70

<210> 223

<211> 113

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 18029 right: 18367 frame: 3 size(aa): 113

<400> 223

Gln Tyr Gly Cys Arg Ala Glu Gly His Gly Arg Ser Ala Ile Arg Gly
1 5 10 15
Ala Arg Gly Gly Arg Ser Leu Glu Lys Gly Pro Arg Leu Leu Trp Asp
20 25 30
Cys Gly Gly Ser Arg Pro Arg Tyr Asn Asp Tyr Asn Met Pro Ala Ser
35 40 45
Pro Pro Gln Tyr Cys Pro Leu Arg Val Gly Pro Ser Thr Gly Pro Gly
50 55 60
Pro Arg Pro Pro Ala Arg Pro Gly Pro Ser Val Arg Pro Arg Pro Ser
65 70 75 80
Ser Cys Ala Arg Arg Arg Trp Arg Phe Ala Gln Pro Ala Gly Arg Arg
85 90 95
Thr Gly Ala Gly Ala Pro Pro Arg Gly Gly Pro Thr Ala Arg Ala Phe
100 105 110

Pro

<210> 224

<211> 103

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 18157 right: 18465 frame: -2 size(aa): 103

<400> 224

Met Ala Pro Gln Thr Ala Val Pro Arg Pro Gln Pro Ala Gly Cys Leu
1 5 10 15
Arg Gly Gln Leu Leu Glu Arg Val Gly His Pro Pro Gly Leu Gly Ala
20 25 30
Gln Gly Asn Ala Arg Ala Val Gly Pro Pro Arg Gly Gly Ala Pro Ala
35 40 45
Pro Val Leu Arg Pro Ala Gly Trp Ala Asn Arg His Arg Leu Arg Ala
50 55 60
Gln Leu Leu Gly Arg Gly Arg Thr Asp Gly Pro Gly Arg Ala Gly Gly
65 70 75 80
Leu Gly Pro Gly Pro Val Glu Gly Pro Thr Arg Ser Gly Gln Tyr Cys
85 90 95
Gly Gly Leu Ala Gly Met Leu
100

<210> 225
<211> 105
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18171 right: 18485 frame: -1 size(aa): 105

<400> 225

Asp Arg Ala Met Arg Asn Glu Trp Pro Leu Lys Gln Leu Ser Pro Val
1 5 10 15
His Asn Gln Leu Gly Val Phe Glu Ala Ser Cys Trp Ser Glu Ser Asp
20 25 30
Ile Pro Pro Asp Trp Glu Leu Lys Gly Thr Leu Val Arg Ser Gly Leu
35 40 45
Pro Gly Glu Val His Arg His Arg Phe Tyr Asp Leu Arg Ala Gly Arg
50 55 60
Ile Ala Ile Val Phe Glu His Ser Cys Leu Gly Glu Asp Ala Leu Met
65 70 75 80
Val Arg Val Gly Pro Ala Ala Trp Ala Arg Asp Arg Trp Lys Ala Leu
85 90 95
Leu Ala Ala Gly Ser Ile Val Ala Gly
100 105

<210> 226
<211> 183
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18201 right: 18749 frame: 1 size(aa): 183

<400> 226

Gly Leu Pro Pro Val Pro Gly Pro Gly Arg Arg Pro Asp Pro Asp His
1 5 10 15
Gln Cys Val Leu Ala Gln Ala Ala Val Leu Glu Asp Asp Gly Asp Ser
20 25 30
Pro Ser Pro Gln Val Val Glu Pro Val Pro Val His Leu Pro Gly Glu
35 40 45
Ala Arg Pro His Glu Arg Ser Leu Glu Leu Pro Val Arg Gly Asp Val
50 55 60
Arg Leu Ala Pro Ala Ala Gly Leu Glu Asp Thr Gln Leu Val Val Asp
65 70 75 80

Gly Gly Gln Leu Phe Glu Gly Pro Phe Ile Pro His Ser Pro Ile Leu
 85 90 95
 Pro Pro Trp Gly Gly Gly Arg Arg Arg Ser Pro Ser Gly Cys Gly Ala
 100 105 110
 Gly Pro Asp Gly Arg Pro Ser Ser Cys Ala Val Ser Cys Ala Gly Cys
 115 120 125
 Leu Ala Cys Arg Pro Arg Ser Ala Ser Ala Arg Ser Ala Pro Ala Pro
 130 135 140
 Gly Pro Pro Trp Gly Pro Gly Arg Pro Gly Ser Pro Thr Pro Gly Pro
 145 150 155 160
 Gly Ser Gly Arg Ser Ala Gly Gln Pro Ala Ser Gly Ser Thr Arg Ser
 165 170 175
 Arg Tyr Pro Cys Ser Gly Gly
 180

<210> 227

<211> 166

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 18251 right: 18748 frame: -3 size(aa): 166

<400> 227

Pro Pro Glu His Gly Tyr Leu Asp Leu Val Asp Pro Asp Ala Gly Trp
 1 5 10 15
 Pro Ala Asp Arg Pro Glu Pro Gly Pro Gly Val Gly Asp Pro Gly Arg
 20 25 30
 Pro Gly Pro Gln Gly Gly Pro Gly Ala Gly Ala Asp Arg Ala Asp Ala
 35 40 45
 Asp Leu Gly Arg Gln Ala Arg His Pro Ala Gln Asp Thr Ala Gln Leu
 50 55 60
 Asp Gly Arg Pro Ser Gly Pro Ala Pro Gln Pro Leu Gly Asp Arg Arg
 65 70 75 80
 Arg Pro Pro Pro His Gly Gly Arg Ile Gly Leu Cys Gly Met Asn Gly
 85 90 95
 Pro Ser Asn Ser Cys Pro Pro Ser Thr Thr Ser Trp Val Ser Ser Arg
 100 105 110
 Pro Ala Ala Gly Ala Ser Arg Thr Ser Pro Arg Thr Gly Ser Ser Arg
 115 120 125
 Glu Arg Ser Cys Gly Arg Ala Ser Pro Gly Arg Cys Thr Gly Thr Gly
 130 135 140
 Ser Thr Thr Cys Gly Leu Gly Glu Ser Pro Ser Ser Ser Ser Thr Ala

145 150 155 160

Ala Trp Ala Arg Thr His
 165

<210> 228
 <211> 507
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> >New ORF = left: 18316 right: 19836 frame: 2 size(aa): 507

<400> 228

Asn Arg Cys Arg Cys Thr Ser Pro Gly Arg Pro Asp Arg Thr Ser Val
 1 5 10 15

Pro Leu Ser Ser Gln Ser Gly Gly Met Ser Asp Ser Leu Gln Gln Leu
 20 25 30

Ala Ser Lys Thr Pro Ser Trp Leu Trp Thr Gly Asp Ser Cys Leu Arg
 35 40 45

Gly His Ser Phe Arg Ile Ala Leu Ser Tyr His Arg Gly Val Gly Ala
 50 55 60

Gly Asp Asp Leu Pro Ala Val Ala Glu Pro Asp Leu Met Ala Gly His
 65 70 75 80

Pro Val Val Gln Cys Leu Ala Arg Asp Ala Ser Pro Val Ala Pro Gly
 85 90 95

Gln His Pro Leu Asp Arg His Pro His Arg Gly Arg Pro Gly Gly Gln
 100 105 110

Asp Val Pro Asp His Pro His Arg Gly Leu Ala Pro Val Asp Pro Leu
 115 120 125

Ala Asn Pro Arg Leu Asp Pro Pro Asp Pro Asp Thr His Val Pro Ala
 130 135 140

Ala Ser His Pro Asp Gln Phe Ser Gly Arg Gln Pro Gly Gln Gly Ala
 145 150 155 160

Val Glu Gly Gly Pro Gly Gln Val Glu Leu Cys Gly His Leu Gly Gln
 165 170 175

Arg Arg Pro Pro Pro Gly Pro Met Val Gly Gln Ala Ala Pro Gly Gln
 180 185 190

Arg His His Arg Gly Pro Pro Gly Pro Met Ala Ser Glu Gln Phe Arg
 195 200 205

Leu Asn Arg Gln Gly Met Leu Gly Trp Val His Ala Thr Leu His Arg
 210 215 220

Ser Gly Ala Ala Val Asp Arg Arg Pro Gly Val Asp Ala Gln Gly Gln
 225 230 235 240

Gln Ala Arg Ala Leu Arg Pro Pro His Arg Gly Arg Gln Asp Gln His
245 250 255

Leu His Arg Gly Gly Gln Ala Asp Arg Gly Ala Gly Gln Ala Gly Pro
260 265 270

Asp Pro Gly Ala Pro Pro Gly Ala Pro Pro Pro Asp Gln Arg Pro Ala
275 280 285

His Glu Val Gly His His Pro Arg Ala Glu Pro Gly Arg Val Arg Leu
290 295 300

Asp Asp Arg Gln Ala Asp Pro Leu Pro Ala Gly Pro Ala Asp Arg Arg
305 310 315 320

Arg Gly Pro Pro Leu Arg Gln Pro His Leu Gly Pro Glu Asp Arg Arg
325 330 335

Val Arg Arg Pro Ala Pro Gly Leu Asp Arg His Pro Gly Ala Ala Arg
340 345 350

Arg Pro Gly Pro Gly Arg Gly Val Pro Gly His Gly His Arg Ala Val
355 360 365

Arg Arg Arg Ala His Gly Ala Gln Pro Pro Val Pro Val Pro Pro Val
370 375 380

Pro Pro Ala Pro Gly Leu Arg Pro Gly Gln Arg Ala Gly Arg Val Leu
385 390 395 400

Arg Gly Pro Gln Leu Glu Asp Val Arg Arg Arg Pro Ala Asp Asp Arg
405 410 415

Val Leu His Leu Asp Arg Ala Cys Gly Gln Asp Leu Arg Gly Val Pro
420 425 430

Gly Arg Arg Cys Gly Gly Arg Gly Ala Arg Leu Glu Thr Val Arg His
435 440 445

Arg Ala Ala Arg Ala Asp Arg Pro Val Gln Glu Arg Arg Asp Asp Gly
450 455 460

Ala Arg Leu Gly His Ala Asp Leu Gly Gly Phe Arg Arg Pro Arg Leu
465 470 475 480

Arg Leu Arg Pro Ala Ala Pro Pro Asp Val Val Ala Val Ala Leu Pro
485 490 495

Pro Ala Gly Arg Pro Gly Pro Pro Val Leu Arg
500 505

<210> 229

<211> 158

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 18484 right: 18957 frame: -2 size(aa): 158

<400> 229

```

His Thr Leu Pro Ile Gln Pro Glu Leu Leu Ala Arg His Arg Ser Arg
1           5           10           15

Trp Ser Pro Val Val Ser Leu Thr Trp Ser Arg Leu Ala Asp His Gly
          20           25           30

Pro Gly Trp Trp Pro Ser Leu Thr Glu Met Ala Ala Glu Phe Asp Leu
          35           40           45

Pro Arg Ala Thr Phe Tyr Arg Ala Leu Ala Arg Leu Ala Ser Ala Glu
          50           55           60

Leu Ile Gly Met Thr Ser Arg Arg Asn Met Gly Ile Trp Ile Trp Trp
65           70           75           80

Ile Gln Thr Arg Val Gly Gln Arg Ile Asp Arg Ser Gln Ala Pro Val
          85           90           95

Trp Val Ile Arg Asp Val Leu Ala Pro Arg Ala Ala Pro Val Arg Val
          100          105          110

Pro Ile Glu Arg Met Leu Thr Trp Gly Asp Arg Arg Gly Ile Pro Arg
          115          120          125

Lys Thr Leu His Asn Trp Met Ala Gly His Gln Val Arg Leu Arg Asn
130          135          140

Arg Trp Glu Ile Val Ala Gly Pro His Pro Thr Val Val Gly
145          150          155

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<210> 230

<211> 84

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 18545 right: 18796 frame: 3 size(aa): 84

<400> 230

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Trp Pro Ala Ile Gln Leu Cys Ser Val Leu Arg Gly Met Pro Arg Leu
1           5           10           15

Ser Pro Gln Val Ser Ile Arg Ser Ile Gly Thr Arg Thr Gly Ala Ala
          20           25           30

Leu Gly Ala Arg Thr Ser Arg Ile Thr His Thr Gly Ala Trp Leu Arg
          35           40           45

Ser Ile Arg Trp Pro Thr Arg Val Trp Ile His Gln Ile Gln Ile Pro
          50           55           60

Met Phe Arg Arg Leu Val Ile Pro Ile Ser Ser Ala Asp Ala Ser Arg
65           70           75           80

Ala Arg Ala Arg

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<210> 231
<211> 83
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18753 right: 19001 frame: 1 size(aa): 83

<400> 231

Ser Ser Arg Ser Val Gln Arg Thr Pro Ala Gly Pro Gly Arg Gly Arg
1 5 10 15
Arg Trp Pro Trp Ala Gly Arg Thr Leu Arg Pro Ser Arg Ser Ala Thr
20 25 30
Ala Thr Thr Arg Ala His Gly Arg Pro Gly Gly Ser Arg Ser Ala Thr
35 40 45
Pro Pro Gly Thr Thr Gly Thr Asp Gly Glu Arg Ala Ile Gln Ala Glu
50 55 60
Ser Ala Arg Tyr Ala Arg Met Gly Ala Cys His Ser Thr Pro Ile Arg
65 70 75 80
Ser Ser Cys

<210> 232
<211> 55
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18770 right: 18934 frame: -3 size(aa): 55

<400> 232

Ile Ala Arg Ser Pro Ser Val Pro Val Val Pro Gly Gly Val Ala Asp
1 5 10 15
Leu Glu Pro Pro Gly Arg Pro Trp Ala Arg Val Val Ala Val Ala Asp
20 25 30
Arg Asp Gly Arg Arg Val Arg Pro Ala Gln Gly His Leu Leu Pro Arg
35 40 45
Pro Gly Pro Ala Gly Val Arg
50 55

<210> 233
<211> 461
<212> PRT
<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 18938 right: 20320 frame: -3 size(aa): 461

<400> 233

```

Asp His Val Gly Ser His Gly Leu Gly His Leu Gln Ala Asn Pro Val
1          5          10          15
Leu Glu Asp Gly Phe Ala Leu Cys His Thr Thr Ile Leu Ala Pro Arg
          20          25          30
Ile Thr Gly Gly Gln Asp Leu Val Tyr Pro Ala Trp Phe Val Pro Leu
          35          40          45
Leu Leu Gly Gln Pro Ala Gln Val Leu Leu Gly Pro Gly Val Pro Asp
          50          55          60
Asp Leu Pro Leu Gly His Gly Val Asp Arg Gly Gly Gly Gly Leu Leu
65          70          75          80
Glu Asp Gly Ile His Leu Pro Gly Tyr Asp Gly Leu His Arg Val Pro
          85          90          95
Val Pro Ala Glu Arg Ala Asp Arg Arg Arg Ala Val Asp Leu Glu Ala
          100          105          110
Leu Arg Ala Asp Pro Glu Arg Trp Gly Arg Ala Val Leu Ala Gly Pro
          115          120          125
Asp Leu Leu Ala Leu Gln Gly Pro Val Val Glu Val Val Arg Gln Ala
          130          135          140
Gln Val Arg Val Leu Arg Val Ala His Ala Val Glu Asp Asp Ala Gly
          145          150          155          160
Leu Thr Gly Glu Pro Glu Ala Pro Ala Asp Leu Leu Glu Val Glu Arg
          165          170          175
Gln Arg Arg Arg Arg Ala Glu Gln Gln Asp Ala Val Ala Val Gly Asp
          180          185          190
Val Glu Thr Leu Arg Asp Gln His Asp Arg Asp Glu His His Arg Leu
          195          200          205
Ala Ala Leu Glu Pro Gly Asp Pro Leu Glu Pro Leu Gly Val Gly Gln
          210          215          220
Phe Arg Val Glu His Leu Gly Arg His Thr Asp Gly Pro Glu Arg Leu
          225          230          235          240
Ala Gly Leu Gly Arg Met Leu Asp Arg Asp Ala Glu Arg Asp Arg Pro
          245          250          255
Pro Ala Val Gly Glu Arg Leu Pro Val Ala Asp Pro Gly Glu His Gly
          260          265          270
Pro Leu Ala Ala Arg Val Glu Val Arg Gly Arg Val Glu Gln Ala Val
          275          280          285

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Pro Gly Gln Ala Val Glu Arg His Glu Leu Gly Asp Gly Arg Pro Asp
290 295 300

Asp His Val Leu Glu His Leu Ala Gln Ala Pro Ala Val Glu Pro Leu
305 310 315 320

Arg Gly Gly Gly Pro Ala Gln Glu Arg Asp Val Val Leu Val Asp Leu
325 330 335

Pro Gly Pro Gly Gly Ala Asp Ala Val Val Gly Leu Val Asp Asp Gln
340 345 350

Gln Val Arg Pro Glu Val Gly Pro Leu Ala Asp Arg Arg Asp Val His
355 360 365

Ala Pro Val Arg Pro Gly Gly Asp Ala Arg Leu His Glu Pro Asp Val
370 375 380

Gly Leu Val Glu Glu Leu Pro Ala Val His Gln Asp Gln Gly Pro Leu
385 390 395 400

Ala Pro Leu His Gly Pro Pro Gly Arg Leu Asp Glu Gly Val Gly Leu
405 410 415

Ala Ala Pro Gly Gly Glu Asp Ala Glu His Ala Leu Val Ala Leu Glu
420 425 430

His Arg Arg Pro Gly Val Gly Gln Gln Leu Leu Leu Ile Gly Val Glu
435 440 445

Trp His Ala Pro Ile Leu Ala Tyr Leu Ala Asp Ser Ala
450 455 460

<210> 234

<211> 424

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 18962 right: 20233 frame: 3 size(aa): 424

<400> 234

Asp Gly Cys Met Pro Leu Tyr Thr Asp Gln Glu Gln Leu Leu Thr Asp
1 5 10 15

Ala Arg Ala Ser Met Leu Lys Gly Asn Lys Arg Val Leu Cys Val Leu
20 25 30

Pro Thr Gly Gly Gly Lys Thr Asn Thr Phe Ile Glu Ala Ala Arg Arg
35 40 45

Thr Val Glu Arg Gly Lys Arg Ala Leu Ile Leu Val His Arg Arg Glu
50 55 60

Leu Leu His Gln Thr Asn Val Arg Leu Met Lys Ser Gly Ile Thr Pro
65 70 75 80

Gly Pro Asn Arg Gly Val Tyr Val Ser Thr Ile Gly Lys Arg Thr His

Phe	Arg	Pro	Asp	Leu	Leu	Ile	Val	Asp	Glu	Ala	His	His	Cys	Val	Ser
100								105				110			
Pro	Thr	Trp	Ala	Arg	Lys	Ile	Asp	Glu	Tyr	Asp	Val	Pro	Leu	Leu	Gly
115								120				125			
Trp	Thr	Ala	Thr	Pro	Glu	Arg	Leu	Asp	Gly	Arg	Gly	Leu	Gly	Glu	Val
130								135				140			
Phe	Gln	Asp	Met	Val	Ile	Gly	Pro	Ser	Val	Ala	Glu	Leu	Met	Ala	Leu
145								150				155			
Asn	Arg	Leu	Ser	Arg	Tyr	Arg	Leu	Phe	His	Pro	Pro	Pro	Asp	Phe	Asp
				165				170				175			
Pro	Gly	Ser	Glu	Arg	Ala	Val	Phe	Ser	Gly	Val	Arg	Asn	Trp	Lys	Thr
				180				185				190			
Phe	Ala	Asp	Gly	Arg	Arg	Thr	Ile	Ala	Phe	Cys	Ile	Ser	Ile	Glu	His
195								200				205			
Ala	Ala	Lys	Thr	Cys	Glu	Ala	Phe	Arg	Ala	Val	Gly	Val	Ala	Ala	Glu
210								215				220			
Val	Leu	Asp	Ser	Lys	Leu	Ser	Asp	Thr	Glu	Arg	Leu	Glu	Arg	Ile	Ala
225								230				235			
Arg	Phe	Lys	Ser	Gly	Glu	Thr	Met	Val	Leu	Val	Ser	Val	Met	Leu	Ile
				245				250				255			
Ser	Glu	Gly	Phe	Asp	Val	Pro	Asp	Cys	Asp	Cys	Val	Leu	Leu	Leu	Arg
				260				265				270			
Pro	Thr	Ser	Ser	Leu	Ser	Leu	Tyr	Leu	Gln	Gln	Val	Gly	Arg	Gly	Leu
275								280				285			
Arg	Phe	Ser	Gly	Glu	Pro	Cys	Val	Ile	Leu	Asp	Cys	Val	Gly	Asn	Ser
290								295				300			
Gln	His	Pro	Asn	Leu	Gly	Leu	Pro	Asp	Asp	Phe	His	His	Trp	Ser	Leu
305								310				315			
Glu	Gly	Lys	Lys	Val	Arg	Ala	Gly	Gln	Asp	Gly	Thr	Ala	Pro	Pro	Leu
				325				330				335			
Arg	Val	Cys	Pro	Lys	Cys	Phe	Gln	Val	His	Arg	Pro	Ala	Pro	Val	Cys
				340				345				350			
Pro	Phe	Cys	Gly	Tyr	Arg	His	Pro	Val	Gln	Ser	Val	Val	Pro	Arg	Glu
355								360				365			
Val	Asp	Ala	Val	Leu	Gln	Glu	Ser	Thr	Ala	Thr	Pro	Ile	His	Thr	Val
370								375				380			
Pro	Lys	Arg	Glu	Val	Ile	Arg	Asn	Ala	Arg	Thr	Glu	Glu	Asp	Leu	Arg
385								390				395			
Arg	Leu	Ala	Gln	Glu	Gln	Gly	Tyr	Lys	Pro	Gly	Trp	Val	Asp	Lys	Ile
				405				410				415			

Leu Ala Ala Arg Asn Ala Arg Arg
420

<210> 235

<211> 269

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 18991 right: 19797 frame: -2 size(aa): 269

<400> 235

Ser Asp Ser Asp Asp Val Gly Arg Ser Ser Arg Thr Gln Ser Gln Ser
1 5 10 15

Gly Thr Ser Lys Pro Ser Glu Ile Ser Met Thr Glu Thr Ser Thr Ile
20 25 30

Val Ser Pro Leu Leu Asn Arg Ala Ile Arg Ser Ser Arg Ser Val Ser
35 40 45

Asp Ser Phe Glu Ser Ser Thr Ser Ala Ala Thr Pro Thr Ala Arg Asn
50 55 60

Ala Ser Gln Val Leu Ala Ala Cys Ser Ile Glu Met Gln Asn Ala Ile
65 70 75 80

Val Arg Arg Pro Ser Ala Asn Val Phe Gln Leu Arg Thr Pro Glu Asn
85 90 95

Thr Ala Arg Ser Leu Pro Gly Ser Lys Ser Gly Gly Gly Trp Asn Arg
100 105 110

Arg Tyr Arg Asp Arg Arg Leu Ser Ala Met Ser Ser Ala Thr Asp Gly
115 120 125

Pro Met Thr Met Ser Trp Asn Thr Ser Pro Arg Pro Arg Pro Ser Ser
130 135 140

Arg Ser Gly Val Ala Val Gln Pro Arg Ser Gly Thr Ser Tyr Ser Ser
145 150 155 160

Ile Phe Arg Ala Gln Val Gly Leu Thr Gln Trp Trp Ala Ser Ser Thr
165 170 175

Ile Ser Arg Ser Gly Arg Lys Trp Val Arg Leu Pro Ile Val Glu Thr
180 185 190

Tyr Thr Pro Arg Phe Gly Pro Gly Val Met Pro Asp Phe Met Ser Arg
195 200 205

Thr Leu Val Trp Trp Arg Ser Ser Arg Arg Cys Thr Arg Ile Arg Ala
210 215 220

Arg Leu Pro Arg Ser Thr Val Arg Leu Ala Ala Ser Met Lys Val Leu
225 230 235 240

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Val Leu Pro Pro Pro Val Gly Arg Thr Gln Ser Thr Arg Leu Leu Pro
245 250 255

Leu Ser Ile Asp Ala Arg Ala Ser Val Asn Ser Cys Ser
260 265

<210> 236

<211> 152

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 19269 right: 19724 frame: 1 size(aa): 152

<400> 236

Ser Ser Thr Arg Pro Thr Thr Ala Ser Ala Pro Pro Gly Pro Gly Arg
1 5 10 15

Ser Thr Ser Thr Thr Ser Arg Ser Trp Ala Gly Pro Pro Pro Arg Ser
20 25 30

Gly Ser Thr Ala Gly Ala Trp Ala Arg Cys Ser Arg Thr Trp Ser Ser
35 40 45

Gly Arg Pro Ser Pro Ser Ser Trp Arg Ser Thr Ala Cys Pro Gly Thr
50 55 60

Ala Cys Ser Thr Arg Pro Arg Thr Ser Thr Arg Ala Ala Ser Gly Pro
65 70 75 80

Cys Ser Pro Gly Ser Ala Thr Gly Arg Arg Ser Pro Thr Ala Gly Gly
85 90 95

Arg Ser Arg Ser Ala Ser Arg Ser Ser Met Arg Pro Arg Pro Ala Arg
100 105 110

Arg Ser Gly Pro Ser Val Trp Arg Pro Arg Cys Ser Thr Arg Asn Cys
115 120 125

Pro Thr Pro Ser Gly Ser Ser Gly Ser Pro Gly Ser Arg Ala Ala Arg
130 135 140

Arg Trp Cys Ser Ser Arg Ser Cys
145 150

<210> 237

<211> 81

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 19443 right: 19685 frame: -1 size(aa): 81

<400> 237

Thr Gly Arg Ser Ala Arg Ala Arg Cys Arg Thr Val Ser Ser Arg

1 5 10 15
Ala Pro Arg Pro Pro His Arg Arg Pro Gly Thr Pro Arg Arg Ser Trp
20 25 30
Pro His Ala Arg Ser Arg Cys Arg Thr Arg Ser Ser Ala Gly Arg Arg
35 40 45
Arg Thr Ser Ser Ser Cys Gly Pro Arg Arg Thr Arg Pro Ala Arg Cys
50 55 60
Pro Gly Arg Ser Pro Gly Ala Gly Gly Thr Gly Gly Thr Gly Thr Gly
65 70 75 80
Gly

<210> 238

<211> 157

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 19728 right: 20198 frame: 1 size(aa): 157

<400> 238

Ser Arg Arg Val Ser Thr Ser Pro Thr Ala Thr Ala Ser Cys Cys Ser
1 5 10 15
Ala Arg Arg Arg Arg Cys Arg Ser Thr Ser Ser Arg Ser Ala Gly Ala
20 25 30
Ser Gly Ser Pro Val Ser Pro Ala Ser Ser Ser Thr Ala Trp Ala Thr
35 40 45
Arg Ser Thr Arg Thr Trp Ala Cys Arg Thr Thr Ser Thr Thr Gly Pro
50 55 60
Trp Arg Ala Arg Arg Ser Gly Pro Ala Arg Thr Ala Arg Pro His Arg
65 70 75 80
Ser Gly Ser Ala Arg Ser Ala Ser Arg Ser Thr Ala Arg Arg Arg Ser
85 90 95
Ala Arg Ser Ala Gly Thr Gly Thr Arg Cys Ser Pro Ser Tyr Pro Gly
100 105 110
Arg Trp Met Pro Ser Ser Arg Ser Pro Pro Pro Pro Arg Ser Thr Pro
115 120 125
Cys Pro Ser Gly Arg Ser Ser Gly Thr Pro Gly Pro Arg Arg Thr Cys
130 135 140
Ala Gly Trp Pro Arg Ser Arg Gly Thr Asn Gln Ala Gly
145 150 155

<210> 239

<211> 144

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 19801 right: 20232 frame: -2 size(aa): 144

<400> 239

Arg	Arg	Ala	Leu	Arg	Ala	Ala	Arg	Ile	Leu	Ser	Thr	Gln	Pro	Gly	Leu
1				5					10					15	
Tyr	Pro	Cys	Ser	Trp	Ala	Ser	Arg	Arg	Arg	Ser	Ser	Ser	Val	Arg	Ala
			20				25						30		
Phe	Arg	Met	Thr	Ser	Arg	Leu	Gly	Thr	Val	Trp	Ile	Gly	Val	Ala	Val
		35					40					45			
Asp	Ser	Trp	Arg	Thr	Ala	Ser	Thr	Ser	Arg	Gly	Thr	Thr	Asp	Cys	Thr
	50					55					60				
Gly	Cys	Arg	Tyr	Pro	Gln	Asn	Gly	Gln	Thr	Gly	Ala	Gly	Arg	Trp	Thr
65					70					75				80	
Trp	Lys	His	Phe	Gly	Gln	Thr	Arg	Ser	Gly	Gly	Ala	Val	Pro	Ser	Trp
				85					90					95	
Pro	Ala	Arg	Thr	Phe	Leu	Pro	Ser	Arg	Asp	Gln	Trp	Trp	Lys	Ser	Ser
			100					105					110		
Gly	Arg	Pro	Arg	Phe	Gly	Cys	Cys	Glu	Leu	Pro	Thr	Gln	Ser	Arg	Met
		115					120					125			
Thr	Gln	Gly	Ser	Pro	Glu	Asn	Arg	Arg	Pro	Arg	Pro	Thr	Cys	Trp	Arg
	130					135					140				

<210> 240
<211> 127
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 19840 right: 20220 frame: 2 size(aa): 127

<400> 240

Ala	Leu	Arg	His	Pro	Arg	Leu	Arg	Gly	Gln	Leu	Ala	Ala	Pro	Glu	Pro
1				5					10					15	
Gly	Pro	Ala	Gly	Arg	Leu	Pro	Pro	Leu	Val	Pro	Gly	Gly	Gln	Glu	Gly
			20					25					30		
Pro	Gly	Arg	Pro	Gly	Arg	His	Gly	Pro	Thr	Ala	Pro	Gly	Leu	Pro	Glu
		35					40					45			
Val	Leu	Pro	Gly	Pro	Pro	Pro	Gly	Ala	Gly	Leu	Pro	Val	Leu	Arg	Val
	50					55					60				

Pro Ala Pro Gly Ala Val Arg Arg Thr Pro Gly Gly Gly Cys Arg Pro
65 70 75 80

Pro Gly Val His Arg His Pro Asp Pro His Arg Ala Gln Ala Gly Gly
85 90 95

His Pro Glu Arg Pro Asp Arg Gly Gly Pro Ala Pro Ala Gly Pro Gly
100 105 110

Ala Gly Val Gln Thr Arg Leu Gly Arg Gln Asp Pro Gly Arg Pro
115 120 125

<210> 241

<211> 92

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 19851 right: 20126 frame: -1 size(aa): 92

<400> 241

Pro Pro Ala Trp Ala Arg Cys Gly Ser Gly Trp Arg Trp Thr Pro Gly
1 5 10 15

Gly Arg His Pro Pro Pro Gly Val Arg Arg Thr Ala Pro Gly Ala Gly
20 25 30

Thr Arg Arg Thr Gly Arg Pro Ala Pro Gly Gly Gly Pro Gly Ser Thr
35 40 45

Ser Gly Arg Pro Gly Ala Val Gly Pro Cys Arg Pro Gly Arg Pro Gly
50 55 60

Pro Ser Cys Pro Pro Gly Thr Ser Gly Gly Ser Arg Pro Ala Gly Pro
65 70 75 80

Gly Ser Gly Ala Ala Ser Cys Pro Arg Ser Arg Gly
85 90

<210> 242

<211> 81

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 20130 right: 20372 frame: -1 size(aa): 81

<400> 242

Ser Ser Pro Arg Ser Glu Asp Arg Gly Gly Ser His Cys Gly Ser Gly
1 5 10 15

Ile Gly Pro Arg Gly Glu Pro Trp Pro Gly Pro Pro Pro Gly Glu Ser
20 25 30

Ser Phe Gly Gly Trp Phe Arg Ala Val Pro Tyr Asn His Thr Ser Ala

35 40 45
 Ala His Tyr Gly Arg Pro Gly Ser Cys Leu Pro Ser Leu Val Cys Thr
 50 55 60
 Pro Ala Pro Gly Pro Ala Gly Ala Gly Pro Pro Arg Ser Gly Arg Ser
 65 70 75 80
 Gly

<210> 243
 <211> 68
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> >New ORF = left: 20202 right: 20405 frame: 1 size(aa): 68

<400> 243

Thr Arg Ser Trp Pro Pro Val Met Arg Gly Ala Ser Met Val Val Trp
 1 5 10 15
 His Ser Ala Lys Pro Ser Ser Lys Thr Gly Phe Ala Trp Arg Trp Pro
 20 25 30
 Arg Pro Trp Leu Pro Thr Trp Ser Tyr Ser Gly Thr Thr Met Gly Ala
 35 40 45
 Ser Pro Ile Leu Gly Pro Gly Ala Gly Ser Pro Ser Ala Trp Gly Arg
 50 55 60
 Ala Pro Pro Thr
 65

<210> 244
 <211> 201
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> >New ORF = left: 20224 right: 20826 frame: 2 size(aa): 201

<400> 244

Cys Ala Ala Leu Val Trp Leu Tyr Gly Thr Ala Arg Asn His Pro Pro
 1 5 10 15
 Lys Leu Asp Ser Pro Gly Gly Gly Pro Gly His Gly Ser Pro Arg Gly
 20 25 30
 Pro Ile Pro Glu Pro Gln Trp Glu Pro Pro Arg Ser Ser Asp Arg Gly
 35 40 45
 Leu Asp His Leu Arg Pro Gly Gly Gly Leu Pro Arg Pro Asp Arg Met
 50 55 60

Ala Arg Pro Pro Asp Arg Arg Pro Arg Pro Val Arg Arg Ser Arg Gly
65 70 75 80

Gln Ala Ala Arg Gly Glu Gly Pro Pro Arg Ala Ala Asp Leu Asp Arg
85 90 95

Gln His Gln Arg Gly Arg Arg Pro Cys Arg Tyr Arg His Phe Thr Arg
100 105 110

Gly Gly His Arg Ser Pro Val Gln Ser Pro Leu Ser Leu Arg Gly Thr
115 120 125

Pro Cys Pro Pro Gln Pro Gln Arg Pro Pro Pro Ala Arg Pro Ala Pro
130 135 140

Gly Ser Pro Ala Ser Ser Gln Ser Cys Ser Thr Cys Pro Arg Pro Ser
145 150 155 160

Ser Ser Ala Ser Ile Gly Arg Arg Thr Arg Thr Gly Gly Pro Val Arg
165 170 175

Leu Arg Ser Ser Thr Cys Ser Arg Pro Pro Ser Thr Pro Ala Arg Ser
180 185 190

Ala Asp Arg Thr Thr Gly Pro Val Gln
195 200

<210> 245
<211> 118
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20236 right: 20589 frame: -2 size(aa): 118

<400> 245

Gly Gly Leu Asp Arg Arg Ala Met Ala Ser Ser Gly Glu Val Thr Val
1 5 10 15

Pro Ala Arg Pro Pro Ala Ala Leu Met Leu Ser Ile Gln Val Cys Cys
20 25 30

Ser Gly Arg Ala Phe Ser Pro Gly Ser Leu Thr Ser Arg Pro Thr Asn
35 40 45

Trp Ala Arg Ala Pro Ile Trp Arg Thr Arg His Pro Ile Arg Ser Gly
50 55 60

Glu Pro Ser Pro Arg Pro Lys Val Ile Gln Pro Pro Val Arg Gly Ser
65 70 75 80

Gly Arg Leu Pro Leu Trp Phe Arg Asn Arg Thr Thr Trp Gly Ala Met
85 90 95

Ala Trp Ala Thr Ser Arg Arg Ile Gln Phe Trp Arg Met Val Ser Arg
100 105 110

Cys Ala Ile Gln Pro Tyr
115

<210> 246

<211> 172

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 20237 right: 20752 frame: 3 size(aa): 172

<400> 246

Tyr Gly Cys Met Ala Gln Arg Glu Thr Ile Leu Gln Asn Trp Ile Arg
1 5 10 15

Leu Glu Val Ala Gln Ala Met Ala Pro His Val Val Leu Phe Arg Asn
20 25 30

His Asn Gly Ser Leu Pro Asp Pro Arg Thr Gly Gly Trp Ile Thr Phe
35 40 45

Gly Leu Gly Glu Gly Ser Pro Asp Leu Ile Gly Trp Arg Val Leu Gln
50 55 60

Ile Gly Ala Leu Ala Gln Phe Val Gly Leu Glu Val Lys Leu Pro Gly
65 70 75 80

Glu Lys Ala Arg Pro Glu Gln Gln Thr Trp Ile Asp Asn Ile Asn Ala
85 90 95

Ala Gly Gly Leu Ala Gly Thr Val Thr Ser Pro Glu Glu Ala Ile Ala
100 105 110

Leu Leu Ser Ser Pro Pro Tyr Pro Phe Glu Val His His Ala Pro Arg
115 120 125

Asn Arg Arg Gly Pro Arg Pro Gln Asp Pro Leu Pro Glu Ala Arg Pro
130 135 140

Gln Ala Ser Pro Ala Leu His Ala Arg Gly Pro Arg Arg Ala Pro Arg
145 150 155 160

Ser Gly Glu Gly Pro Gly Pro Ala Asp Pro Phe Gly
165 170

<210> 247

<211> 76

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 20324 right: 20551 frame: -3 size(aa): 76

<400> 247

Ser Asp Gly Thr Gly Lys Ala Ala Gly Arg Val Asp Val Val Asp Pro

1 5 10 15
Gly Leu Leu Leu Gly Ala Gly Leu Leu Pro Gly Gln Leu Asp Leu Glu
20 25 30
Thr Asp Glu Leu Gly Glu Gly Ala Asp Leu Glu Asp Ala Pro Ser Asp
35 40 45
Gln Val Gly Gly Ala Leu Pro Gln Ala Glu Gly Asp Pro Ala Pro Gly
50 55 60
Pro Arg Ile Gly Glu Ala Pro Ile Val Val Pro Glu
65 70 75

<210> 248

<211> 131

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 20409 right: 20801 frame: 1 size(aa): 131

<400> 248

Ser Asp Gly Ala Ser Ser Arg Ser Ala Pro Ser Pro Ser Ser Ser Val
1 5 10 15

Ser Arg Ser Ser Cys Pro Gly Arg Arg Pro Ala Pro Ser Ser Arg Pro
20 25 30

Gly Ser Thr Thr Ser Thr Arg Pro Ala Ala Leu Pro Val Pro Ser Leu
35 40 45

His Pro Arg Arg Pro Ser Leu Ser Cys Pro Val Pro Pro Ile Pro Ser
50 55 60

Arg Tyr Thr Met Pro Pro Ala Thr Ala Glu Ala Pro Ala Arg Lys Thr
65 70 75 80

Arg Ser Arg Lys Pro Gly Leu Lys Pro Val Leu Leu Tyr Met Pro Glu
85 90 95

Ala Leu Val Glu Arg Leu Asp Arg Ala Lys Asp Gln Asp Arg Arg Thr
100 105 110

Arg Ser Ala Glu Ile Phe His Leu Leu Glu Ala Ala Leu Asp Ala Arg
115 120 125

Ser Ile Gly
130

<210> 249

<211> 116

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 20550 right: 20897 frame: -1 size(aa): 116

<400> 249

Gly Tyr Asp Arg Cys Gly Arg Arg Ser Cys Ser Val Glu Ala Pro Arg
1 5 10 15

Glu Gln Ser Trp Gly Ala Ser His Cys Thr Gly Pro Val Val Arg Ser
20 25 30

Ala Asp Arg Ala Gly Val Glu Gly Gly Leu Glu Gln Val Glu Asp Leu
35 40 45

Ser Arg Thr Gly Pro Pro Val Leu Val Leu Arg Pro Ile Glu Ala Leu
50 55 60

Asp Glu Gly Leu Gly His Val Glu Gln Asp Trp Leu Glu Ala Gly Leu
65 70 75 80

Pro Gly Ala Gly Leu Ala Gly Gly Gly Leu Cys Gly Cys Gly Gly His
85 90 95

Gly Val Pro Arg Arg Asp Arg Gly Asp Trp Thr Gly Glu Arg Trp Pro
100 105 110

Pro Arg Val Lys
115

<210> 250

<211> 63

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 20671 right: 20859 frame: -2 size(aa): 63

<400> 250

Gly Pro Pro Gly Ala Ile Leu Gly Gly Leu Ser Leu Tyr Gly Ala Arg
1 5 10 15

Gly Ser Ile Ser Arg Ser Ser Gly Arg Arg Gly Arg Pro Arg Ala Gly
20 25 30

Gly Arg Ser Gln Pro Asn Gly Ser Ala Gly Pro Gly Pro Ser Pro Asp
35 40 45

Arg Gly Ala Arg Arg Gly Pro Arg Ala Cys Arg Ala Gly Leu Ala
50 55 60

<210> 251

<211> 76

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 20687 right: 20914 frame: -3 size(aa): 76

<400> 251

Cys Leu Arg Trp Ser Lys Gly Met Thr Ala Val Ala Gly Gly His Ala
1 5 10 15

Val Leu Arg Pro Pro Gly Ser Asn Pro Gly Gly Pro Leu Thr Val Arg
20 25 30

Gly Pro Trp Phe Asp Gln Pro Ile Glu Arg Ala Ser Arg Ala Ala Ser
35 40 45

Ser Arg Trp Lys Ile Ser Ala Glu Arg Val Arg Arg Ser Trp Ser Phe
50 55 60

Ala Arg Ser Arg Arg Ser Thr Arg Ala Ser Gly Met
65 70 75

<210> 252

<211> 54

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 20756 right: 20917 frame: 3 size(aa): 54

<400> 252

Asp Leu Pro Pro Ala Arg Gly Arg Pro Arg Arg Pro Leu Asp Arg Leu
1 5 10 15

Ile Glu Pro Arg Ala Pro Tyr Ser Glu Arg Pro Pro Arg Ile Ala Pro
20 25 30

Gly Gly Pro Gln His Cys Met Thr Ala Cys His Ser Gly His Thr Leu
35 40 45

Thr Pro Pro Gln Thr Leu
50

<210> 253

<211> 274

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 20830 right: 21651 frame: 2 size(aa): 274

<400> 253

Glu Ala Pro Gln Asp Cys Ser Arg Gly Ala Ser Thr Leu His Asp Arg
1 5 10 15

Leu Pro Gln Arg Ser Tyr Pro Tyr Ser Thr Ser Asp Thr Ile Ala Asp
20 25 30

Val Asn Pro Arg Thr Ser Leu Arg Pro Gly Pro Asp Pro Pro Pro Pro

35					40					45					
Val	Ala	Pro	Pro	Glu	Gly	His	Arg	His	Asp	Pro	Val	Pro	Gly	Asp	Leu
50						55					60				
Ala	Gln	Ala	Arg	Gly	Gln	Gly	Lys	Ser	Leu	Asp	Asp	Ala	Pro	Asp	Arg
65				70						75					80
Gly	His	Gly	Pro	Gly	Arg	Arg	His	Pro	Gly	Ile	Gln	Gln	Leu	His	Arg
				85					90					95	
Arg	Arg	Arg	Arg	Arg	Arg	Leu	Arg	Arg	Arg	Asp	His	Gln	Cys	Gln	Arg
			100					105					110		
His	Leu	Arg	Arg	Val	Gly	Arg	Arg	Arg	Pro	Gly	Leu	Ala	Gly	Arg	Arg
		115					120					125			
Leu	Gly	Gly	Leu	Arg	Pro	Ala	Ala	Ala	Glu	Leu	Pro	Ala	Ala	His	Arg
	130					135					140				
Gly	Gln	Val	Asp	Pro	Pro	Leu	Leu	Gly	Val	Pro	Gln	Pro	Cys	Gly	Arg
145					150					155					160
Pro	Gly	Leu	Asp	Arg	Ala	Pro	Gly	Pro	Pro	Asp	Arg	Pro	Gly	Arg	Leu
			165						170					175	
Arg	His	Asp	Glu	Pro	Glu	Pro	Leu	Pro	Gly	Asp	Ala	Pro	Gly	Arg	Leu
			180					185					190		
Pro	Pro	Pro	Ala	His	Arg	Gly	Gly	Gly	Pro	Asp	Leu	Gln	Arg	Asp	Arg
		195					200					205			
Gly	Ala	Leu	Arg	Pro	Arg	Ala	Asp	Ala	Ala	Gly	Pro	Ala	Pro	Gly	Ala
	210					215					220				
Asp	Arg	Pro	Ala	Gly	Cys	Arg	Pro	Gly	Gly	Pro	Gly	Arg	Cys	Pro	Gln
225					230					235					240
Phe	Asp	Gly	Arg	His	Pro	Gly	Arg	Pro	Gly	Pro	Asp	Pro	Thr	Pro	Ser
				245					250					255	
Arg	Gly	Arg	Glu	Arg	His	Leu	Arg	Arg	Val	Pro	Gln	His	Pro	Leu	Gly
			260				265						270		

Pro Gly

<210> 254

<211> 56

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF. = left: 20874 right: 21041 frame: 1 size(aa): 56

<400> 254

Pro	Pro	Ala	Thr	Ala	Val	Ile	Pro	Leu	Leu	His	Leu	Arg	His	Tyr	Ser
1				5				10						15	

Arg Cys Gln Pro Pro His Gln Pro Ser Thr Gly Thr Arg Ser Ser Ser
20 25 30

Thr Cys Arg Ser Ser Gly Arg Thr Ser Pro Arg Pro Gly Thr Gly Arg
35 40 45

Ser Gly Pro Gly Glu Arg Thr Arg
50 55

<210> 255

<211> 63

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 20901 right: 21089 frame: -1 size(aa): 63

<400> 255

Arg Arg Pro Gly Pro Trp Pro Arg Ser Gly Ala Ser Ser Arg Leu Leu
1 5 10 15

Pro Cys Pro Leu Ala Trp Ala Arg Ser Pro Gly Thr Gly Ser Trp Arg
20 25 30

Cys Pro Ser Gly Gly Ala Thr Gly Gly Gly Gly Ser Gly Pro Gly Arg
35 40 45

Arg Leu Val Arg Gly Leu Thr Ser Ala Ile Val Ser Glu Val Glu
50 55 60

<210> 256

<211> 66

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 20911 right: 21108 frame: -2 size(aa): 66

<400> 256

Leu Leu Asn Pro Trp Val Thr Ala Ser Trp Thr Val Ala Pro Val Arg
1 5 10 15

Gly Val Val Gln Ala Phe Thr Leu Ser Ser Arg Leu Gly Gln Ile Ala
20 25 30

Arg Tyr Arg Val Val Ala Met Ser Phe Arg Arg Ser Asp Arg Trp Arg
35 40 45

Arg Ile Trp Ser Arg Ser Lys Ala Gly Ala Gly Val Asp Ile Cys Tyr
50 55 60

Ser Val
65

<210> 257
 <211> 738
 <212> PRT
 <213> Cyanophage S-2L

 <220>
 <221> misc_feature
 <223> >New ORF = left: 20921 right: 23134 frame: 3 size(aa): 738

<400> 257

Gln	Met	Ser	Thr	Pro	Ala	Pro	Ala	Phe	Asp	Arg	Asp	Gln	Ile	Leu	Leu	1	5	10	15
His	Leu	Ser	Leu	Leu	Arg	Lys	Asp	Ile	Ala	Thr	Thr	Arg	Tyr	Arg	Ala	20	25	30	
Ile	Trp	Pro	Arg	Arg	Glu	Asp	Lys	Val	Lys	Ala	Trp	Thr	Thr	Pro	Leu	35	40	45	
Thr	Gly	Ala	Thr	Val	Gln	Asp	Ala	Val	Thr	Gln	Gly	Phe	Asn	Ser	Tyr	50	55	60	
Ile	Val	Val	Gly	Asp	Gly	Gly	Asp	Ser	Asp	Ala	Glu	Ile	Thr	Ser	Val	65	70	75	
Asn	Ala	Ile	Phe	Gly	Glu	Trp	Asp	Asp	Gly	Asp	Leu	Ala	Trp	Gln	Val	85	90	95	
Gly	Ala	Trp	Glu	Ala	Cys	Gly	Leu	Pro	Arg	Pro	Ser	Phe	Gln	Leu	Arg	100	105	110	
Thr	Gly	Gly	Lys	Ser	Ile	His	His	Tyr	Trp	Val	Phe	His	Ser	Pro	Val	115	120	125	
Asp	Val	Pro	Ala	Trp	Thr	Glu	Leu	Gln	Ala	Arg	Leu	Ile	Ala	Leu	Ala	130	135	140	
Gly	Phe	Asp	Thr	Thr	Asn	Arg	Asn	Pro	Ser	Arg	Val	Met	Arg	Leu	Ala	145	150	155	
Gly	Cys	Pro	His	Gln	Arg	Thr	Gly	Glu	Val	Ala	Gln	Ile	Phe	Asn	Ala	165	170	175	
Thr	Gly	Glu	Leu	Tyr	Asp	Pro	Gly	Gln	Met	Leu	Gln	Val	Leu	Pro	Pro	180	185	190	
Val	Pro	Ile	Asp	Pro	Pro	Ala	Ala	Ala	Pro	Val	Ala	Pro	Gly	Gly	Ala	195	200	205	
Pro	Ser	Ser	Met	Asp	Asp	Ile	Arg	Ala	Ala	Leu	Ala	Gln	Ile	Pro	Pro	210	215	220	
Arg	Pro	Gly	Ala	Gly	Ser	Gly	Thr	Tyr	Ala	Glu	Tyr	Arg	Asn	Ile	Leu	225	230	235	
Trp	Gly	Leu	Val	Lys	Ala	Val	Glu	Glu	Ala	Gly	Gly	Thr	Arg	Asp	Gln	245	250	255	
Ala	Val	Ala	Met	Met	Gln	Ala	His	Ser	Pro	Glu	Gly	Trp	Asp	Cys	Ala				

260					265					270					
Gln	Val	Ala	Arg	Ser	Gly	Gly	Lys	Lys	Ile	Ser	Thr	Gly	Thr	Phe	Trp
		275					280					285			
Trp	His	Ala	Met	Ser	Tyr	Gly	Trp	Ala	Pro	Pro	Lys	Lys	Ala	Pro	Glu
	290					295					300				
Pro	Pro	Pro	Gln	Ala	Arg	Gln	Val	Pro	Ala	Val	Ala	Ala	Val	Leu	Gln
305					310					315					320
Ala	Ala	Glu	Ala	Ala	Pro	Gly	Thr	Gly	Thr	Glu	His	Gly	Pro	Trp	Ala
				325					330					335	
Pro	Leu	Pro	Pro	Gly	Trp	Gln	Gly	Thr	Asn	Lys	Glu	Gly	Leu	Pro	Arg
				340				345					350		
Ala	Ser	Gln	Ile	Thr	Thr	Tyr	Glu	Leu	Ala	Leu	Leu	Met	Gln	Val	Ser
		355					360					365			
Leu	Arg	Gly	Val	Leu	Trp	His	Asn	Glu	Met	Ser	Gly	Glu	Val	Met	His
	370					375					380				
Gly	Lys	Thr	Ala	Leu	Ser	Pro	Ile	Glu	Leu	Gln	Ile	Ala	Tyr	Ser	Arg
385					390					395					400
Leu	Glu	Gly	Leu	Gly	Tyr	Lys	Val	Thr	Lys	Glu	Asn	Ala	Lys	Thr	Ala
				405					410					415	
Ile	Leu	Gln	Ala	Ser	Ile	Ala	Asp	Leu	Arg	His	Pro	Val	Arg	Glu	Tyr
			420					425					430		
Leu	Asn	Thr	Cys	Thr	Thr	Pro	Leu	Pro	Asp	Glu	Val	Trp	Ala	Asp	Ile
		435					440					445			
Ala	Asn	Ala	Leu	Leu	Gly	Pro	Gly	His	Ser	Ala	Phe	Asp	Ser	Ser	Ala
		450				455					460				
Ile	Arg	Lys	Trp	Leu	Ile	Phe	Ala	Val	Ala	Arg	Val	Phe	Gln	Pro	Gly
465					470					475					480
Cys	Pro	Phe	Gly	Phe	Met	Leu	Val	Leu	Ala	Gly	Ala	Gln	Gln	Met	His
				485					490					495	
Lys	Thr	Arg	Phe	Phe	Asn	Thr	Leu	Ala	Ser	Asp	Glu	Trp	Phe	Leu	Gly
			500					505					510		
Gly	Phe	Gln	Arg	Gly	Arg	Ser	Asp	Thr	Asp	Asp	Leu	Ile	Ala	Leu	His
		515					520					525			
Arg	Ser	Trp	Ile	Thr	Glu	Trp	Gly	Glu	Leu	Asp	Gly	Gly	Leu	Ser	Lys
		530				535					540				
His	Asp	Ser	Ala	Glu	Leu	Lys	Ala	Met	Ile	Asp	Arg	Lys	Val	Asp	Val
545					550					555					560
Leu	Arg	Arg	Pro	Tyr	Ala	Ala	Thr	His	Glu	Ser	Cys	Pro	Arg	Ser	Phe
				565					570					575	
Val	Leu	Cys	Gly	Thr	Thr	Asn	Arg	Arg	Asp	Gly	Leu	Phe	Thr	Asp	Pro
			580					585					590		

Thr Gly Asn Arg Arg Tyr Val Val Val Pro Val Asn Gln Arg Ile Asp
 595 600 605
 Ser Glu Arg Leu Glu Gln Met Arg Asp Gln Ile Trp Ala Thr Ala Leu
 610 615 620
 Arg Glu Tyr Arg Ser Gly Lys Leu Trp Tyr Leu Asp Glu Glu Glu Leu
 625 630 635 640
 Glu Ile Asn Ala Lys Arg Asn Lys Gly Leu Glu Val Glu Asp Ala Trp
 645 650 655
 Val Gly Thr Ile Gln Met His Leu Asn Ser Ser Ile Asp Leu Glu Arg
 660 665 670
 Leu Thr Asp Gly Arg Tyr Gly Ile Asn Ile Glu Ser Val Tyr Leu Lys
 675 680 685
 Ile Glu Pro Glu Val Gly Arg Arg Gly Pro Gly Phe Gly Lys Arg Ile
 690 695 700
 Arg Asp Thr Met Leu Ser Leu Gly Trp Glu Pro Val Arg Leu Arg Leu
 705 710 715 720
 Ala Ser Asp Pro Ser Gly Asn Pro Val Arg Arg Trp Ala Pro Val Gln
 725 730 735

Gly Gly

<210> 258
 <211> 375
 <212> PRT
 <213> Cyanophage S-2L

 <220>
 <221> misc_feature
 <223> >New ORF = left: 20930 right: 22054 frame: -3 size(aa): 375

<400> 258

His Leu Val Val Pro Glu His Pro Pro Gln Gly Asp Leu His Gln Gln
 1 5 10 15
 Gly Gln Phe Val Gly Gly Asp Leu Arg Gly Pro Gly Gln Ala Leu Leu
 20 25 30
 Val Arg Ala Leu Pro Ala Arg Gly Gln Arg Arg Pro Gly Ala Val Leu
 35 40 45
 Gly Ala Gly Ser Arg Gly Gly Leu Cys Gly Leu Glu His Gly Gly His
 50 55 60
 Gly Arg His Leu Ala Gly Leu Gly Arg Arg Leu Arg Gly Leu Leu Arg
 65 70 75 80
 Arg Cys Pro Ala Val Gly His Arg Met Pro Pro Glu Arg Pro Gly Ala
 85 90 95

Asp Leu Leu Ala Pro Gly Ala Gly His Leu Gly Ala Ile Pro Ala Leu
100 105 110

Gly Ala Val Arg Leu His His Gly His Gly Leu Val Pro Gly Ala Ala
115 120 125

Gly Leu Leu Asp Gly Leu Asn Gln Ala Pro Glu Asp Val Ala Val Leu
130 135 140

Gly Val Gly Ala Ala Pro Cys Pro Gly Thr Gly Trp Asp Leu Gly Gln
145 150 155 160

Gly Gly Pro Asp Val Val His Arg Thr Gly Gly Thr Ser Arg Gly His
165 170 175

Arg Gly Gly Ser Arg Arg Val Asp Arg His Arg Gly Gln Asp Leu Gln
180 185 190

His Leu Pro Gly Val Val Glu Leu Pro Gly Arg Val Glu Asp Leu Gly
195 200 205

His Leu Pro Gly Ala Leu Val Gly Ala Ala Gly Gln Ala His His Pro
210 215 220

Gly Gly Val Pro Val Arg Arg Val Glu Ala Gly Gln Gly Asp Gln Ala
225 230 235 240

Gly Leu Glu Leu Gly Pro Gly Arg Asp Val His Arg Ala Val Glu His
245 250 255

Pro Val Val Val Asp Arg Leu Ala Pro Gly Ala Gln Leu Glu Ala Arg
260 265 270

Pro Arg Gln Ala Ala Gly Leu Pro Gly Ala Asp Leu Pro Gly Gln Val
275 280 285

Ala Val Val Pro Leu Ala Glu Asp Gly Val Asp Thr Gly Asp Leu Gly
290 295 300

Val Gly Val Ala Ala Val Ala Tyr Asp Asp Val Ala Val Glu Ser Leu
305 310 315 320

Gly Asp Gly Val Leu Asp Arg Gly Pro Gly Gln Gly Arg Arg Pro Gly
325 330 335

Phe Tyr Leu Val Leu Ser Pro Gly Pro Asp Arg Pro Val Pro Gly Arg
340 345 350

Gly Asp Val Leu Pro Glu Glu Arg Gln Val Glu Glu Asp Leu Val Pro
355 360 365

Val Glu Gly Trp Cys Gly Gly
370 375

<210> 259

<211> 56

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

182/359

<223> >New ORF = left: 21112 right: 21279 frame: -2 size(aa): 56

<400> 259

Trp	Trp	Ile	Asp	Leu	Pro	Pro	Val	Arg	Ser	Trp	Lys	Leu	Gly	Arg	Gly
1				5					10					15	

Arg	Pro	Gln	Ala	Ser	Gln	Ala	Pro	Thr	Cys	Gln	Ala	Arg	Ser	Pro	Ser
		20						25					30		

Ser	His	Ser	Pro	Lys	Met	Ala	Leu	Thr	Leu	Val	Ile	Ser	Ala	Ser	Glu
		35					40					45			

Ser	Pro	Pro	Ser	Pro	Thr	Thr	Met
	50					55	

<210> 260

<211> 72

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 21123 right: 21338 frame: 1 size(aa): 72

<400> 260

Ala	Thr	Ala	Ala	Thr	Pro	Thr	Pro	Arg	Ser	Pro	Val	Ser	Thr	Pro	Ser
1				5					10					15	

Ser	Ala	Ser	Gly	Thr	Thr	Ala	Thr	Trp	Pro	Gly	Arg	Ser	Ala	Pro	Gly
			20					25					30		

Arg	Pro	Ala	Ala	Cys	Arg	Gly	Arg	Ala	Ser	Ser	Cys	Ala	Pro	Gly	Ala
		35					40					45			

Ser	Arg	Ser	Thr	Thr	Thr	Gly	Cys	Ser	Thr	Ala	Leu	Trp	Thr	Ser	Arg
	50					55					60				

Pro	Gly	Pro	Ser	Ser	Arg	Pro	Ala
65					70		

<210> 261

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 21162 right: 21440 frame: -1 size(aa): 93

<400> 261

Arg	Ser	Gly	Pro	Pro	Pro	Arg	Cys	Ala	Gly	Gly	Gly	Ser	Arg	Pro	Gly
1				5					10					15	

Ala	Ser	Pro	Gly	Arg	Gly	Ser	Gly	Ser	Ser	Cys	Arg	Ser	Arg	Pro	Gly
			20					25					30		

Arg Ser Gly Gly Pro Gly Ala Arg Ser Arg Pro Gly Arg Pro Gln Gly
35 40 45

Cys Gly Thr Pro Ser Ser Gly Gly Ser Thr Cys Pro Arg Cys Ala Ala
50 55 60

Gly Ser Ser Ala Ala Ala Gly Arg Arg Pro Pro Arg Arg Arg Pro Ala
65 70 75 80

Arg Pro Gly Arg Arg Arg Pro Thr Arg Arg Arg Trp Arg
85 90

<210> 262

<211> 59

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 21283 right: 21459 frame: -2 size(aa): 59

<400> 262

Ser Ser Pro Val Ala Leu Lys Ile Trp Ala Thr Ser Pro Val Arg Trp
1 5 10 15

Trp Gly Gln Pro Ala Arg Arg Ile Thr Arg Glu Gly Phe Arg Phe Val
20 25 30

Val Ser Lys Pro Ala Arg Ala Ile Arg Arg Ala Trp Ser Ser Val Gln
35 40 45

Ala Gly Thr Ser Thr Gly Leu Trp Asn Thr Gln
50 55

<210> 263

<211> 103

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 21390 right: 21698 frame: 1 size(aa): 103

<400> 263

Cys Ala Trp Pro Ala Ala Pro Thr Ser Ala Pro Gly Arg Trp Pro Arg
1 5 10 15

Ser Ser Thr Arg Pro Gly Ser Ser Thr Thr Pro Gly Arg Cys Cys Arg
20 25 30

Ser Cys Pro Arg Cys Arg Ser Thr Arg Arg Leu Pro Pro Arg Trp Pro
35 40 45

Arg Glu Val Pro Pro Val Arg Trp Thr Thr Ser Gly Pro Pro Trp Pro
50 55 60

Arg Ser His Pro Val Pro Gly Gln Gly Ala Ala Pro Thr Pro Ser Thr
65 70 75 80

Ala Thr Ser Ser Gly Ala Trp Leu Arg Pro Ser Arg Arg Pro Ala Ala
85 90 95

Pro Gly Thr Arg Pro Trp Pro
100

<210> 264

<211> 69

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 21444 right: 21650 frame: -1 size(aa): 69

<400> 264

Pro Gly Pro Arg Gly Cys Cys Gly Thr Arg Arg Arg Cys Arg Ser Leu
1 5 10 15

Pro Arg Asp Gly Val Gly Ser Gly Pro Gly Arg Pro Gly Cys Arg Pro
20 25 30

Ser Asn Trp Gly His Leu Pro Gly Pro Pro Gly Arg Gln Pro Ala Gly
35 40 45

Arg Ser Ala Pro Gly Ala Gly Pro Ala Ala Ser Ala Arg Gly Arg Arg
50 55 60

Ala Pro Arg Ser Arg
65

<210> 265

<211> 51

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 21463 right: 21615 frame: -2 size(aa): 51

<400> 265

Val Pro Leu Pro Ala Pro Gly Arg Gly Gly Ile Trp Ala Arg Ala Ala
1 5 10 15

Arg Met Ser Ser Ile Glu Leu Gly Ala Pro Pro Gly Ala Thr Gly Ala
20 25 30

Ala Ala Gly Gly Ser Ile Gly Thr Gly Gly Arg Thr Cys Ser Ile Cys
35 40 45

Pro Gly Ser
50

<210> 266

<211> 60
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 21619 right: 21798 frame: -2 size(aa): 60

<400> 266

Asp Ile Ala Cys His Gln Asn Val Pro Val Leu Ile Phe Leu Pro Pro
1 5 10 15

Glu Arg Ala Thr Trp Ala Gln Ser Gln Pro Ser Gly Leu Cys Ala Cys
20 25 30

Ile Met Ala Thr Ala Trp Ser Arg Val Pro Pro Ala Ser Ser Thr Ala
35 40 45

Leu Thr Arg Pro Gln Arg Met Leu Arg Tyr Ser Ala
50 55 60

<210> 267
<211> 256
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 21655 right: 22422 frame: 2 size(aa): 256

<400> 267

Gly Arg Arg Gly Gly Arg Arg His Pro Gly Pro Gly Arg Gly His Asp
1 5 10 15

Ala Gly Ala Gln Pro Arg Gly Leu Gly Leu Arg Pro Gly Gly Pro Leu
20 25 30

Arg Gly Gln Glu Asp Gln His Arg Asp Val Leu Val Ala Cys Asp Val
35 40 45

Leu Arg Leu Gly Thr Ala Glu Gly Pro Gly Ala Ala Ala Pro Gly
50 55 60

Pro Pro Gly Ala Gly Arg Gly Arg Arg Ala Pro Gly Arg Arg Gly Arg
65 70 75 80

Pro Trp Asn Arg His Arg Ala Arg Pro Leu Gly Ala Ala Ala Pro Gly
85 90 95

Leu Ala Gly His Glu Gln Gly Gly Pro Ala Gln Gly Leu Ala Asp His
100 105 110

His Leu Arg Thr Gly Pro Ala Asp Ala Gly Leu Pro Ala Gly Gly Ala
115 120 125

Leu Ala Gln Arg Asp Val Arg Arg Ser His Ala Arg Gln Asp Gly Pro
130 135 140

Leu Ala Asp Arg Ala Pro Asp Arg Leu Gln Pro Ala Arg Gly Pro Arg
145 150 155 160
Leu Gln Gly His Gln Gly Glu Arg Gln Asp Arg His Pro Ala Gly Val
165 170 175
Asp Arg Arg Pro Ala Ala Pro Arg Pro Gly Val Pro Gln His Leu His
180 185 190
Asp Ala Pro Ala Arg Arg Gly Leu Gly Arg His Arg Gln Arg Pro Ala
195 200 205
Gly Pro Arg Ala Gln Arg Val Arg Leu Gln Arg His Pro Gln Val Ala
210 215 220
Asp Leu Arg Arg Gly Pro Gly Leu Pro Ala Arg Leu Pro Leu Arg Leu
225 230 235 240
His Ala Gly Ala Gly Trp Arg Pro Ala Asp Ala Gln Asp Pro Val Leu
245 250 255

<210> 268

<211> 103

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 21702 right: 22010 frame: 1 size(aa): 103

<400> 268

Cys Arg Arg Thr Ala Pro Arg Ala Gly Ile Ala Pro Arg Trp Pro Ala
1 5 10 15
Pro Gly Ala Arg Arg Ser Ala Pro Gly Arg Ser Gly Gly Met Arg Cys
20 25 30
Pro Thr Ala Gly His Arg Arg Arg Arg Pro Arg Ser Arg Arg Pro Arg
35 40 45
Pro Ala Arg Cys Arg Pro Trp Pro Pro Cys Ser Arg Pro Gln Arg Pro
50 55 60
Pro Leu Glu Pro Ala Pro Ser Thr Ala Pro Gly Arg Arg Cys Pro Arg
65 70 75 80
Ala Gly Arg Ala Arg Thr Arg Arg Ala Cys Pro Gly Pro Arg Arg Ser
85 90 95
Pro Pro Thr Asn Trp Pro Cys
100

<210> 269

<211> 73

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 21768 right: 21986 frame: -1 size(aa): 73

<400> 269

Ser Ala Arg Pro Trp Ala Gly Pro Pro Cys Ser Cys Pro Ala Ser Pro
1 5 10 15

Gly Ala Ala Ala Pro Arg Gly Arg Ala Arg Cys Arg Phe Gln Gly Arg
20 25 30

Pro Leu Arg Pro Gly Ala Arg Arg Pro Arg Pro Ala Pro Gly Gly Pro
35 40 45

Gly Ala Ala Ala Pro Gly Pro Ser Ser Ala Val Pro Ser Arg Arg Thr
50 55 60

Ser His Ala Thr Arg Thr Ser Arg Cys
65 70

<210> 270

<211> 64

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 21802 right: 21993 frame: -2 size(aa): 64

<400> 270

Val Val Ile Cys Glu Ala Leu Gly Arg Pro Ser Leu Phe Val Pro Cys
1 5 10 15

Gln Pro Gly Gly Ser Gly Ala Gln Gly Pro Cys Ser Val Pro Val Pro
20 25 30

Gly Ala Ala Ser Ala Ala Trp Ser Thr Ala Ala Thr Ala Gly Thr Trp
35 40 45

Arg Ala Trp Gly Gly Gly Ser Gly Ala Phe Phe Gly Gly Ala Gln Pro
50 55 60

<210> 271

<211> 104

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 22014 right: 22325 frame: 1 size(aa): 104

<400> 271

Cys Arg Ser Pro Cys Gly Gly Cys Ser Gly Thr Thr Arg Cys Gln Ala
1 5 10 15

Lys Ser Cys Thr Ala Arg Arg Pro Ser Arg Arg Ser Ser Arg Ser

Pro Thr Ala Gly Ser Arg Ala Ser Ala Thr Arg Ser Pro Arg Arg Thr
35 40 45

Pro Arg Pro Pro Ser Cys Arg Arg Arg Ser Pro Thr Cys Gly Thr Pro
50 55 60

Ser Gly Ser Thr Ser Thr Pro Ala Arg Arg Pro Cys Pro Thr Arg Ser
65 70 75 80

Gly Pro Thr Ser Pro Thr Pro Cys Trp Ala Pro Gly Thr Ala Arg Ser
85 90 95

Thr Pro Ala Pro Ser Ala Ser Gly
100

<210> 272

<211> 126

<212> PRT

<213> Cyanophage S-2L

 $\langle 220 \rangle$

<221> misc feature

<223> >New ORF = left: 22058 right: 22435 frame: -3 size(aa): 126

<400> 272

Gly Gln Gly Val Lys Glu Pro Gly Leu Val His Leu Leu Gly Ala Ser
1 5 10 15

Gln His Gln His Glu Ala Glu Gly Ala Ala Gly Leu Glu Asp Pro Gly
20 25 30

His Gly Glu Asp Gln Pro Leu Ala Asp Gly Ala Gly Val Glu Arg Ala
35 40 45

Val Pro Gly Ala Gln Gln Gly Val Gly Asp Val Gly Pro Asp Leu Val.
50 55 60

Gly Gln Gly Arg Arg Ala Gly Val Glu Val Leu Pro Asp Gly Val Pro
65 70 75 80

Gln Val Gly Asp Arg Arg Leu Gln Asp Gly Gly Leu Gly Val Leu Leu
85 90 95

Gly Asp Leu Val Ala Glu Ala Leu Glu Pro Ala Val Gly Asp Leu Glu
100 105 110

Leu Asp Arg Arg Glu Gly Arg Leu Ala Val His Asp Phe Ala
115 120 125

<210> 273

<211> 158

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc feature

<223> >New ORF = left: 22138 right: 22611 frame: -2 size(aa): 158

<400> 273

Gly Leu Arg Ser Thr Ser Thr Phe Arg Ser Ile Ile Ala Leu Ser Ser
1 5 10 15
Ala Leu Ser Cys Leu Glu Arg Pro Pro Ser Ser Ser Pro His Ser Val
20 25 30
Ile Gln Asp Arg Cys Arg Ala Ile Arg Ser Ser Val Ser Glu Arg Pro
35 40 45
Arg Trp Asn Pro Pro Arg Asn His Ser Ser Glu Ala Arg Val Leu Lys
50 55 60
Asn Arg Val Leu Cys Ile Cys Trp Ala Pro Ala Ser Thr Ser Met Lys
65 70 75 80
Pro Lys Gly Gln Pro Gly Trp Lys Thr Arg Ala Thr Ala Lys Ile Ser
85 90 95
His Leu Arg Met Ala Leu Glu Ser Asn Ala Leu Cys Pro Gly Pro Ser
100 105 110
Arg Ala Leu Ala Met Ser Ala Gln Thr Ser Ser Gly Arg Gly Val Val
115 120 125
Gln Val Leu Arg Tyr Ser Arg Thr Gly Cys Arg Arg Ser Ala Ile Asp
130 135 140
Ala Cys Arg Met Ala Val Leu Ala Phe Ser Leu Val Thr Leu
145 150 155

<210> 274

<211> 51

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 22221 right: 22373 frame: -1 size(aa): 51

<400> 274

Ser Arg Arg Gly Ser Arg Ala Gly Arg Pro Gly Pro Arg Arg Arg Ser
1 5 10 15
Ala Thr Cys Gly Trp Arg Trp Ser Arg Thr Arg Cys Ala Arg Gly Pro
20 25 30
Ala Gly Arg Trp Arg Cys Arg Pro Arg Pro Arg Arg Ala Gly Ala Ser
35 40 45
Cys Arg Cys
50

<210> 275

<211> 54

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 22329 right: 22490 frame: 1 size(aa): 54

<400> 275

Ser Ser Pro Trp Pro Gly Ser Ser Ser Pro Ala Ala Pro Ser Ala Ser
1 5 10 15

Cys Trp Cys Trp Leu Ala Pro Ser Arg Cys Thr Arg Pro Gly Ser Leu
20 25 30

Thr Pro Trp Pro Gln Thr Ser Gly Ser Trp Ala Asp Ser Ser Gly Ala
35 40 45

Ala Leu Thr Pro Thr Thr
50

<210> 276

<211> 177

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 22439 right: 22969 frame: -3 size(aa): 177

<400> 276

Leu Asp Val Asp Ala Val Ala Pro Val Gly Gln Pro Leu Gln Val Asp
1 5 10 15

Arg Ala Ile Gln Val His Leu Asp Arg Pro His Pro Gly Val Leu His
20 25 30

Leu Lys Ala Leu Val Ala Phe Arg Val Asp Leu Gln Leu Leu Leu Val
35 40 45

Glu Val Pro Glu Leu Ala Ala Ala Val Leu Pro Glu Gly Gly Cys Pro
50 55 60

Asp Leu Val Ser His Leu Leu Gln Ala Leu Ala Val Asp Pro Leu Val
65 70 75 80

Asp Gly His Asp His Val Pro Pro Val Ala Gly Arg Val Gly Glu Glu
85 90 95

Pro Ile Pro Ala Val Arg Arg Pro Ala Glu Asp Glu Ala Pro Gly Ala
100 105 110

Ala Phe Val Arg Gly Gly Val Gly Pro Pro Glu His Val His Leu Pro
115 120 125

Val Asp His Arg Leu Glu Leu Gly Ala Val Val Leu Gly Glu Ala Ala
130 135 140

Val Glu Leu Pro Pro Leu Gly Asp Pro Gly Pro Val Gln Gly Asn Gln

145 150 155 160
Val Val Gly Val Arg Ala Ala Pro Leu Glu Ser Ala Gln Glu Pro Leu
 165 170 175
Val

<210> 277
<211> 130
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22480 right: 22869 frame: 2 size(aa): 130

<400> 277

His Arg Arg Pro Asp Cys Pro Ala Pro Val Leu Asp His Arg Val Gly
1 5 10 15
Gly Ala Arg Arg Arg Pro Leu Gln Ala Arg Gln Arg Arg Ala Gln Gly
 20 25 30
Asp Asp Arg Pro Glu Gly Gly Arg Ala Pro Glu Ala Leu Arg Arg His
 35 40 45
Ala Arg Lys Leu Pro Pro Glu Leu Arg Pro Leu Arg Asp Asp Glu Pro
 50 55 60
Pro Gly Trp Ala Leu His Arg Pro Asp Arg Gln Gln Ala Val Arg Gly
65 70 75 80
Arg Ala Arg Gln Pro Ala Asp Arg Gln Arg Ala Pro Gly Ala Asp Ala
 85 90 95
Arg Pro Asp Leu Gly Asn Arg Pro Pro Gly Val Pro Gln Arg Gln Ala
 100 105 110
Leu Val Pro Arg Arg Gly Gly Ala Gly Asp Gln Arg Glu Thr Gln Gln
 115 120 125
Gly Pro
 130

<210> 278
<211> 110
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22581 right: 22910 frame: 1 size(aa): 110

<400> 278

Ser Thr Gly Arg Trp Thr Cys Ser Gly Gly Pro Thr Pro Pro Arg Thr
1 5 10 15

Lys Ala Ala Pro Gly Ala Ser Ser Ser Ala Gly Arg Arg Thr Ala Gly
20 25 30
Met Gly Ser Ser Pro Thr Arg Pro Ala Thr Gly Gly Thr Trp Ser Cys
35 40 45
Pro Ser Thr Ser Gly Ser Thr Ala Ser Ala Trp Ser Arg Cys Glu Thr
50 55 60
Arg Ser Gly Gln Pro Pro Ser Gly Ser Thr Ala Ala Ala Ser Ser Gly
65 70 75 80
Thr Ser Thr Arg Arg Ser Trp Arg Ser Thr Arg Asn Ala Thr Arg Ala
85 90 95
Leu Arg Trp Arg Thr Pro Gly Trp Gly Arg Ser Arg Cys Thr
100 105 110

<210> 279

<211> 112

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 22615 right: 22950 frame: -2 size(aa): 112

<400> 279

Arg Pro Ser Val Ser Arg Ser Arg Ser Ile Glu Leu Phe Arg Cys Ile
1 5 10 15
Trp Ile Val Pro Thr Gln Ala Ser Ser Thr Ser Arg Pro Leu Leu Arg
20 25 30
Phe Ala Leu Ile Ser Ser Ser Ser Ser Arg Tyr Gln Ser Leu Pro
35 40 45
Leu Arg Tyr Ser Arg Arg Ala Val Ala Gln Ile Trp Ser Arg Ile Cys
50 55 60
Ser Arg Arg Ser Leu Ser Ile Arg Trp Leu Thr Gly Thr Thr Thr Tyr
65 70 75 80
Arg Leu Leu Pro Val Gly Ser Val Lys Ser Pro Ser Arg Arg Phe Val
85 90 95
Val Pro Gln Arg Thr Lys Leu Arg Gly Gln Leu Ser Cys Val Ala Ala
100 105 110

<210> 280

<211> 134

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 22918 right: 23319 frame: 2 size(aa): 134

<400> 280

Leu Asp Arg Pro Gly Ala Ala Asp Arg Arg Ala Leu Arg His Gln His
1 5 10 15

Arg Val Ser Leu Pro Gln Asp Arg Ala Arg Gly Gly Thr Pro Trp Pro
20 25 30

Gly Leu Arg Lys Ala Asp Pro Gly His His Ala Glu Pro Gly Leu Gly
35 40 45

Ala Arg Ala Ala Ala Ser Arg Gln Arg Pro Glu Arg Gln Pro Gly Glu
50 55 60

Ala Leu Gly Ala Arg Pro Gly Gly Val Ala Gln Gly Met Val Gly Thr
65 70 75 80

Val Ala Gln Gly Asp Thr Val Arg Ala Thr Val Pro Gly Arg Ala Gly
85 90 95

Gly Val Arg Glu Gly Leu Ala Pro Arg Ile Cys Pro Ser His Gly Pro
100 105 110

Ile Pro Pro Val Val Leu Leu Cys His Pro Pro Pro Arg Arg Glu Arg
115 120 125

Lys Lys Gly Gly Gln Glu
130

<210> 281

<211> 105

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 22973 right: 23287 frame: -3 size(aa): 105

<400> 281

Gly Gly Gly Gly Thr Thr Ala Gln Gln Gly Glu Ser Gly Arg Gly Thr
1 5 10 15

Gly Arg Phe Glu Val Pro Thr Pro Pro Gly Pro Pro Arg His Gly Pro
20 25 30

Ala Gln Trp His Gly Leu Cys Arg Pro Val Pro Pro Phe Arg Pro Ser
35 40 45

Pro Val Leu Pro Pro Leu Asp Gly Arg Pro Thr Pro His Arg Val Ala
50 55 60

Ala Arg Val Ala Gly Glu Thr Gln Pro His Gly Leu Pro Ala Gln Ala
65 70 75 80

Gln His Gly Val Pro Asp Pro Leu Ser Glu Ala Arg Ala Thr Ala Ser
85 90 95

His Leu Gly Leu Asp Leu Glu Val Asp

100

105

<210> 282
<211> 161
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22978 right: 23460 frame: -2 size(aa): 161

<400> 282

His Gly Gly Arg Gly Pro Val Ser Thr Glu Ser Arg Gly Gly Thr Ala
1 5 10 15
Arg Trp Gly Gly Pro Ala Gly Gly Leu Cys Arg Arg Ala Val Leu Ser
20 25 30
Leu Leu Leu Ser Pro Val Pro Arg Phe Pro Gly Ile Thr Leu Leu Leu
35 40 45
Leu Thr Pro Phe Phe Ser Leu Ser Pro Arg Gly Gly Val Ala Gln Gln
50 55 60
His Asn Arg Gly Asn Arg Ala Val Gly Arg Ala Asp Ser Arg Cys Gln
65 70 75 80
Pro Leu Pro Asp Pro Pro Gly Thr Ala Arg His Ser Gly Thr Asp Cys
85 90 95
Val Ala Leu Cys His Arg Ser Asp His Pro Leu Cys Tyr Pro Pro Trp
100 105 110
Thr Gly Ala Gln Arg Leu Thr Gly Leu Pro Leu Gly Ser Leu Ala Arg
115 120 125
Arg Ser Arg Thr Gly Ser Gln Pro Arg Leu Ser Met Val Ser Arg Ile
130 135 140
Arg Phe Pro Lys Pro Gly Pro Arg Arg Pro Thr Ser Gly Ser Ile Leu
145 150 155 160
Arg

<210> 283
<211> 110
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22983 right: 23312 frame: -1 size(aa): 110

<400> 283

Pro Pro Phe Phe Leu Ser Leu Leu Gly Gly Gly Trp His Asn Ser Thr
1 5 10 15

Thr Gly Gly Ile Gly Pro Trp Asp Gly Gln Ile Arg Gly Ala Asn Pro
20 25 30
Ser Arg Thr Pro Pro Ala Arg Pro Gly Thr Val Ala Arg Thr Val Ser
35 40 45
Pro Cys Ala Thr Val Pro Thr Ile Pro Cys Ala Thr Pro Pro Gly Arg
50 55 60
Ala Pro Asn Ala Ser Pro Gly Cys Arg Ser Gly Arg Trp Arg Asp Ala
65 70 75 80
Ala Ala Arg Ala Pro Ser Pro Gly Ser Ala Trp Cys Pro Gly Ser Ala
85 90 95
Phe Arg Ser Pro Gly His Gly Val Pro Pro Arg Ala Arg Ser
100 105 110

<210> 284
<211> 60
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23109 right: 23288 frame: 1 size(aa): 60

<400> 284

Gly Val Gly Arg Pro Ser Arg Gly Gly Ser Thr Gly Asp Gly Arg Asn
1 5 10 15
Gly Gly Thr Gly Arg His Ser Pro Cys His Cys Ala Gly Pro Cys Arg
20 25 30
Gly Gly Pro Gly Gly Val Gly Thr Ser Asn Leu Pro Val Pro Arg Pro
35 40 45
Asp Ser Pro Cys Cys Ala Val Val Pro Pro Pro Pro
50 55 60

<210> 285
<211> 139
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23138 right: 23554 frame: 3 size(aa): 139

<400> 285

His Arg Gly Trp Ser Glu Arg Trp His Arg Ala Thr Gln Ser Val Pro
1 5 10 15
Leu Cys Arg Ala Val Pro Gly Gly Ser Gly Arg Gly Trp His Leu Glu
20 25 30

Ser Ala Arg Pro Thr Ala Arg Phe Pro Leu Leu Cys Cys Cys Ala Thr
 35 40 45

Pro Pro Leu Gly Glu Arg Glu Lys Lys Gly Val Arg Ser Asn Arg Val
 50 55 60

Ile Pro Gly Asn Arg Gly Thr Gly Glu Arg Arg Ser Asp Ser Thr Ala
 65 70 75 80

Arg Arg His Arg Pro Pro Ala Gly Pro Pro His Arg Ala Val Pro Pro
 85 90 95

Arg Asp Ser Val Glu Thr Gly Pro Leu Pro Pro Cys Tyr Thr Gly Asp
 100 105 110

Asp Asn Asp Ala Ile Glu Arg Pro Cys Cys Ser Pro Thr Cys Pro Asn
 115 120 125

Gly Arg Ala Lys His Pro Arg Thr Cys Leu Thr
 130 135

<210> 286

<211> 251

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 23316 right: 24068 frame: -1 size(aa): 251

<400> 286

His Pro Glu Arg Gln Gly Ala Ile Pro Pro Asp Asn Thr Leu Arg Gln
 1 5 10 15

Thr Glu Gln Val Pro Gln Asp Glu Pro Leu Gly Val Gly Ala Lys Leu
 20 25 30

Gln Glu Leu Gly Pro Asp Arg Pro Leu Pro Gly Asp Leu Asp Gly Leu
 35 40 45

Pro Ala Glu His Val Pro Leu Gly Arg Gln Gly Leu Leu Asp Ala Gly
 50 55 60

Gln Arg Arg Arg His Leu Val Gly Ile Lys Glu Pro Glu Gly Ala Thr
 65 70 75 80

Lys Ala Arg His Arg Gln Phe Gly Val Gly His Leu Gly Gly Gly Gly
 85 90 95

Gln Gln Val Phe Asp Arg His Pro Leu Arg Arg Ser Ser Gln Ala Arg
 100 105 110

Val Ser Ser Ala Gln Thr Ile Ala Ser Ala Arg Ser Leu Leu Glu Ile
 115 120 125

Val Gln Pro Cys Arg Gln Arg Phe Thr Tyr Ser Val Ala Ser Ile Arg
 130 135 140

Ser Cys Trp Val Val Pro Gly Arg Arg Ser Leu Lys Lys Arg Asn Ser

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145          150          155          160
Arg Leu Leu Ser Val Ser Lys Ser Met Lys Ala Thr Ser Asp Arg Ser
165          170          175
Gly Gly Val Ser Pro Ser His Ser Gly Met Ser Glu Asn Ser Met Val
180          185          190
Ala Arg Leu Arg Arg Cys His Pro Gln Tyr Ser Thr Ala Gly Gly Ala
195          200          205
Arg Ser Arg Leu Ser Pro Gly Val Gly Arg Pro Gly Gly Gly Val Pro
210          215          220
Gln Gly Val Cys Ala Val Val Pro Cys Cys Arg Ser Ser Phe Pro Pro
225          230          235          240
Phe Pro Gly Ser Pro Val Ser Pro Cys Tyr Ser
245          250

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<210> 287

<211> 50

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 23323 right: 23472 frame: 2 size(aa): 50

<400> 287

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Gln Gly Asp Thr Gly Glu Pro Gly Asn Gly Gly Lys Glu Glu Arg Gln
1          5          10          15
His Gly Thr Thr Ala Gln Thr Pro Cys Gly Thr Pro Pro Pro Gly Arg
20          25          30
Pro Thr Pro Gly Leu Ser Arg Asp Arg Ala Pro Pro Ala Val Leu Tyr
35          40          45
Trp Gly
50

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<210> 288

<211> 73

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 23331 right: 23549 frame: 1 size(aa): 73

<400> 288

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Tyr Arg Gly Thr Gly Glu Arg Gly Lys Gly Gly Ala Thr Ala Arg His
1          5          10          15
Asp Gly Thr Asp Pro Leu Arg Asp Pro Pro Thr Gly Pro Ser His Pro
20          25          30

```

Gly Thr Gln Ser Arg Pro Gly Pro Ser Arg Arg Ala Ile Leu Gly Met
35 40 45

Thr Thr Thr Gln Ser Ser Asp His Ala Val Leu Arg His Ala Arg Met
50 55 60

Gly Gly Arg Asn Thr Pro Gly Pro Val
65 70

<210> 289

<211> 156

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 23464 right: 23931 frame: -2 size(aa): 156

<400> 289

Arg Pro Ser Cys Arg Ala Arg Thr Pro Trp Pro Pro Gly Ala Ala Arg
1 5 10 15

Arg Arg Pro Glu Thr Ser Ala Ser Arg Gly Asp Gln Gly Thr Gly Gly
20 25 30

Arg Asn Glu Gly Ser Thr Pro Pro Val Arg Gly Gly Pro Pro Arg Trp
35 40 45

Gly Trp Pro Ala Gly Leu Arg Ser Ser Ser Phe Glu Ala Glu Leu Pro
50 55 60

Gly Pro Arg Phe Phe Gly Pro Asp His Arg Val Gly Gln Val Thr Leu
65 70 75 80

Gly Asp Arg Pro Ala Met Pro Ala Glu Ile His Val Leu Gly Gly Gln
85 90 95

His Pro Val Val Leu Gly Gly Ala Arg Gln Ala Val Ala Lys Glu Ala
100 105 110

Gln Leu Gln Ala Pro Gln Arg Phe Gln Glu His Glu Gly Tyr Val Arg
115 120 125

Gln Val Arg Gly Cys Phe Ala Leu Pro Phe Gly His Val Gly Glu Gln
130 135 140

His Gly Arg Ser Ile Ala Ser Leu Ser Ser Pro Val
145 150 155

<210> 290

<211> 95

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 23476 right: 23760 frame: 2 size(aa): 95

<400> 290

Gln Arg Arg Asn Arg Ala Thr Met Leu Phe Ser Asp Met Pro Glu Trp
1 5 10 15
Glu Gly Glu Thr Pro Pro Asp Leu Ser Asp Val Ala Phe Met Leu Leu
20 25 30
Glu Thr Leu Arg Ser Leu Glu Leu Arg Phe Phe Ser Asp Arg Leu Pro
35 40 45
Gly Thr Thr Gln His Asp Arg Met Leu Ala Thr Glu Tyr Val Asn Leu
50 55 60
Cys Arg His Gly Trp Thr Ile Ser Lys Ser Asp Leu Ala Asp Ala Met
65 70 75 80
Val Trp Ala Glu Glu Thr Arg Ala Trp Glu Leu Arg Leu Lys Gly
85 90 95

<210> 291

<211> 62

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 23663 right: 23848 frame: 3 size(aa): 62

<400> 291

Ile Ser Ala Gly Met Ala Gly Arg Ser Pro Arg Val Thr Trp Pro Thr
1 5 10 15
Arg Trp Ser Gly Pro Lys Lys Arg Gly Pro Gly Ser Ser Ala Ser Lys
20 25 30
Asp Asp Asp Arg Arg Pro Ala Gly His Pro His Arg Gly Gly Pro Pro
35 40 45
Arg Thr Gly Gly Val Glu Pro Ser Leu Arg Pro Pro Val Pro
50 55 60

<210> 292

<211> 109

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 23700 right: 24026 frame: 1 size(aa): 109

<400> 292

Pro Gly Arg Arg Asp Gly Leu Gly Arg Arg Asn Ala Gly Leu Gly Ala
1 5 10 15
Pro Pro Gln Arg Met Thr Ile Glu Asp Leu Leu Ala Thr Pro Thr Glu

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                20                25                30
Val Ala His Pro Glu Leu Ala Val Ser Ser Leu Arg Cys Ala Leu Arg
    35                40                45

Phe Leu Asp Pro His Glu Met Pro Thr Ser Leu Ala Cys Val Glu Gln
    50                55                60

Pro Leu Ala Ala Lys Gly Tyr Val Leu Gly Arg Lys Ala Val Lys Val
    65                70                75                80

Ala Trp Gln Arg Ala Ile Arg Ala Glu Leu Leu Glu Leu Arg Pro His
    85                90                95

Ser Lys Arg Leu Val Leu Arg Asn Leu Leu Arg Leu Ser
    100                105

<210> 293
<211> 108
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23756 right: 24079 frame: -3 size(aa): 108

<400> 293

Thr Tyr Tyr Ser Ile Pro Asn Gly Arg Ala Gln Tyr Pro Arg Thr Ile
1                5                10                15

Arg Tyr Asp Arg Arg Ser Arg Phe Leu Lys Thr Ser Arg Leu Glu Trp
    20                25                30

Gly Arg Ser Ser Arg Ser Ser Ala Arg Ile Ala Leu Cys Gln Ala Thr
    35                40                45

Leu Thr Ala Phe Leu Pro Ser Thr Tyr Pro Leu Ala Ala Arg Gly Cys
    50                55                60

Ser Thr Gln Ala Arg Asp Val Gly Ile Ser Trp Gly Ser Arg Asn Arg
    65                70                75                80

Arg Ala Gln Arg Arg Leu Asp Thr Ala Ser Ser Gly Trp Ala Thr Ser
    85                90                95

Val Gly Val Ala Ser Arg Ser Ser Ile Val Ile Leu
    100                105

<210> 294
<211> 80
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23764 right: 24003 frame: 2 size(aa): 80

<400> 294

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.- Arg Ser Lys Thr Cys Trp Pro Pro Pro Pro Arg Trp Pro Thr Pro Asn
.   1           5           10           15

.- Trp Arg Cys Arg Ala Phe Val Ala Pro Ser Gly Ser Leu Ile Pro Thr
.   20           25           30

Arg Cys Arg Arg Leu Trp Pro Ala Ser Ser Ser Pro Trp Arg Pro Arg
.   35           40           45

Gly Thr Cys Ser Ala Gly Arg Pro Ser Arg Ser Pro Gly Lys Gly Arg
.   50           55           60

Ser Gly Pro Ser Ser Trp Ser Phe Ala Pro Thr Pro Ser Gly Ser Ser
.   65           70           75           80

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<210> 295

<211> 194

<212> PRT

<213> Cyanophage S-2L

<220> .

<221> misc_feature

<223> >New ORF = left: 23852 right: 24433 frame: 3 size(aa): 194

<400> 295

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Ser Pro Arg Asp Ala Asp Val Ser Gly Leu Arg Arg Ala Ala Pro Gly
1           5           10           15

Gly Gln Gly Val Arg Ala Arg Gln Glu Gly Arg Gln Gly Arg Leu Ala
20           25           30

Lys Gly Asp Pro Gly Arg Ala Pro Gly Ala Ser Pro Pro Leu Gln Ala
35           40           45

Ala Arg Leu Glu Glu Pro Ala Pro Ser Val Val Ala Tyr Cys Pro Gly
50           55           60

Val Leu Arg Pro Ala Val Arg Asp Ala Ile Ile Arg Ser Glu His Arg
65           70           75           80

Lys Asn Gln Trp Pro Ser Pro Pro Ser Ser Arg Pro Pro Thr Phe Pro
85           90           95

Pro Pro Pro Lys Ala Trp Ser Phe Ala Thr Cys Arg Pro Arg Ser Pro
100          105          110

Ala Ser Pro Ala Pro Arg Cys Pro Ser Arg Pro Pro Arg Cys Asn Arg
115          120          125

Pro Trp Pro Ala Pro Ala Thr Thr Pro Pro Pro Arg Lys Pro Pro Ser
130          135          140

Ser Gly Pro Pro Pro Pro Pro Pro Arg Cys Pro Trp Pro Pro Ile Ala
145          150          155          160

Pro Ala Arg Pro Ser Thr Gly Pro Ser Pro Ser Cys Arg Ser Pro Asp
165          170          175

```

Pro Pro Ala Lys Arg Gly Gly Pro Ser Arg Ala Ser Pro Val Ile Leu
180 185 190

Arg Pro

<210> 296

<211> 172

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 23935 right: 24450 frame: -2 size(aa): 172

<400> 296

His Arg Tyr Leu Ser His Gly Arg Ser Ile Thr Gly Glu Ala Arg Glu
1 5 10 15

Gly Pro Pro Arg Leu Ala Gly Gly Ser Gly Asp Arg Gln Asp Gly Asp
20 25 30

Gly Pro Val Glu Gly Leu Ala Gly Ala Ile Gly Gly Gln Gly His Leu
35 40 45

Gly Gly Gly Gly Gly Gly Pro Glu Leu Gly Gly Phe Leu Gly Gly Gly
50 55 60

Val Val Ala Gly Ala Gly Gln Gly Leu Leu His Leu Gly Gly Arg Leu
65 70 75 80

Gly His Leu Gly Ala Gly Glu Ala Gly Asp Arg Gly Leu Gln Val Ala
85 90 95

Asn Asp Gln Ala Leu Gly Gly Gly Gly Lys Val Gly Gly Leu Asp Glu
100 105 110

Gly Gly Glu Gly His Trp Phe Phe Leu Cys Ser Glu Arg Ile Ile Ala
115 120 125

Ser Arg Thr Ala Gly Arg Asn Thr Pro Gly Gln Tyr Ala Thr Thr Asp
130 135 140

Gly Ala Gly Ser Ser Arg Arg Ala Ala Trp Ser Gly Gly Glu Ala Pro
145 150 155 160

Gly Ala Arg Pro Gly Ser Pro Phe Ala Arg Arg Pro
165 170

<210> 297

<211> 123

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 24007 right: 24375 frame: 2 size(aa): 123

<400> 297

Gly Thr Cys Ser Val Cys Arg Ser Val Leu Ser Gly Gly Ile Ala Pro
1 5 10 15

Cys Arg Ser Gly Cys Tyr Asn Thr Phe Arg Thr Gln Glu Lys Pro Met
20 25 30

Ala Leu Ala Ser Phe Ile Gln Thr Thr Asp Leu Ser Ala Ala Thr Gln
35 40 45

Gly Leu Val Ile Arg His Leu Gln Thr Ala Ile Ser Cys Leu Thr Arg
50 55 60

Thr Glu Met Pro Lys Ser Ala Thr Glu Val Gln Gln Ala Leu Ala Gly
65 70 75 80

Ala Gly Tyr Asp Ala Thr Thr Glu Glu Ala Ala Glu Leu Trp Thr Ala
85 90 95

Ala Ala Thr Ala Gln Val Pro Leu Ala Ser Asn Arg Thr Arg Lys Ala
100 105 110

Leu Tyr Arg Ala Val Ala Val Leu Pro Val Ala
115 120

<210> 298

<211> 60

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 24072 right: 24251 frame: -1 size(aa): 60

<400> 298

Pro Ala Pro Ala Arg Ala Cys Cys Thr Ser Val Ala Asp Leu Gly Ile
1 5 10 15

Ser Val Arg Val Arg Gln Glu Ile Ala Val Cys Arg Trp Arg Met Thr
20 25 30

Arg Pro Trp Val Ala Ala Glu Arg Ser Val Val Trp Met Lys Glu Ala
35 40 45

Arg Ala Ile Gly Phe Ser Cys Val Leu Asn Val Leu
50 55 60

<210> 299

<211> 220

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 24075 right: 24734 frame: 1 size(aa): 220

<400> 299

Tyr Val Gln Asn Thr Gly Lys Thr Asn Gly Pro Arg Leu Leu His Pro
 1 5 10 15
 Asp His Arg Pro Phe Arg Arg His Pro Arg Pro Gly His Ser Pro Pro
 20 25 30
 Ala Asp Arg Asp Leu Leu Pro His Pro His Arg Asp Ala Gln Val Gly
 35 40 45
 His Arg Gly Ala Thr Gly Pro Gly Arg Arg Arg Leu Arg Arg His His
 50 55 60
 Arg Gly Ser Arg Arg Ala Leu Asp Arg Arg Arg His Arg Pro Gly Ala
 65 70 75 80
 Pro Gly Leu Gln Ser His Pro Gln Gly Pro Leu Pro Gly Arg Arg Arg
 85 90 95
 Pro Ala Gly Arg Leu Thr Arg Arg Pro Asn Glu Gly Gly Pro Pro Gly
 100 105 110
 Pro Pro Arg Leu Tyr Ser Ala His Asp Ser Gly Ile Asp Val Thr Ala
 115 120 125
 Gly Pro Gly Gly Ala Pro Gly Arg Ala Thr Ala Arg Arg Arg Ala Glu
 130 135 140
 Val Arg His Cys Ala Pro Asp Asp Gly Leu Ser Gly Arg Val Arg His
 145 150 155 160
 Leu Gly Ala Gly Gly Leu Gln Ala Asp Pro Gly Arg Gln Gly Gln Thr
 165 170 175
 Gly His Arg Pro Arg Cys Gly Gly Pro Val Arg Gly Asp Gly Cys His
 180 185 190
 Pro Gly Pro Leu Gly Val Gly Leu Cys Trp Gly Asp Ala Glu Arg Gly
 195 200 205
 Leu Gly Leu Arg Leu Gln Gly Pro Ala Gly His Leu
 210 215 220

<210> 300

<211> 106

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> >New ORF = left: 24194 right: 24511 frame: -3 size(aa): 106

<400> 300

Arg Thr Ser Ala Arg Leu Arg Ala Val Ala Leu Pro Gly Ala Pro Pro
 1 5 10 15
 Gly Pro Ala Val Thr Ser Ile Pro Glu Ser Trp Ala Glu Tyr Asn Arg
 20 25 30

Gly Gly Pro Gly Gly Pro Pro Ser Phe Gly Arg Arg Val Arg Arg Pro
35 40 45
Ala Gly Arg Arg Arg Pro Gly Arg Gly Pro Cys Gly Cys Asp Trp Arg
50 55 60
Pro Gly Ala Pro Gly Arg Trp Arg Arg Arg Ser Arg Ala Arg Arg Leu
65 70 75 80
Pro Arg Trp Trp Arg Arg Ser Arg Arg Arg Pro Gly Pro Val Ala Pro
85 90 95
Arg Trp Pro Thr Trp Ala Ser Arg Cys Gly
100 105

<210> 301

<211> 126

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 24379 right: 24756 frame: 2 size(aa): 126

<400> 301

Pro Ala Gly Gln Thr Arg Gly Ala Leu Pro Gly Leu Pro Gly Tyr Thr
1 5 10 15
Pro Pro Met Thr Gln Val Ser Met Ser Arg Arg Asp Gln Val Glu His
20 25 30
Leu Val Glu Leu Leu Arg Glu Gly Gly Gln Lys Ser Val Thr Ala His
35 40 45
Leu Met Thr Val Cys Leu Asp Glu Phe Gly Ile Ser Ala Pro Glu Ala
50 55 60
Phe Lys Arg Ile Arg Asp Ala Lys Ala Lys Leu Ala Thr Gly Leu Asp
65 70 75 80
Ala Val Asp Arg Ser Glu Glu Met Ala Ala Thr Leu Ala Arg Trp Glu
85 90 95
Ser Val Phe Ala Gly Ala Met Arg Ser Glu Asp Trp Gly Ser Ala Cys
100 105 110
Lys Ala Leu Gln Gly Ile Cys Asn Met Leu Gly Leu Lys Pro
115 120 125

<210> 302

<211> 113

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 24441 right: 24779 frame: -1 size(aa): 113

<400> 302

Leu Ala Gly Ile Gly Pro Arg Gln Gly Phe Asn Pro Ser Met Leu Gln
1 5 10 15
Met Pro Cys Arg Ala Leu Gln Ala Glu Pro Gln Ser Ser Leu Arg Ile
20 25 30
Ala Pro Ala Lys Thr Asp Ser Gln Arg Ala Arg Val Ala Ala Ile Ser
35 40 45
Ser Asp Arg Ser Thr Ala Ser Arg Pro Val Ala Ser Leu Ala Leu Ala
50 55 60
Ser Arg Ile Arg Leu Lys Ala Ser Gly Ala Glu Met Pro Asn Ser Ser
65 70 75 80
Arg Gln Thr Val Ile Arg Cys Ala Val Thr Asp Phe Cys Pro Pro Ser
85 90 95
Arg Ser Ser Ser Thr Arg Cys Ser Thr Trp Ser Arg Arg Asp Ile Asp
100 105 110

Thr

<210> 303

<211> 87

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 24487 right: 24747 frame: -2 size(aa): 87

<400> 303

Pro Gln His Val Thr Asp Ala Leu Gln Gly Leu Ala Gly Gly Ala Pro
1 5 10 15
Val Leu Ala Pro His Arg Pro Ser Lys Asp Arg Leu Pro Ala Gly Gln
20 25 30
Gly Gly Ser His Leu Leu Gly Pro Val His Arg Ile Glu Ala Gly Gly
35 40 45
Gln Phe Gly Leu Gly Val Pro Asp Pro Leu Glu Gly Leu Arg Arg Arg
50 55 60
Asp Ala Glu Leu Val Gln Thr Asp Arg His Gln Val Arg Ser Asp Gly
65 70 75 80
Leu Leu Pro Ala Phe Ala Gln
85

<210> 304

<211> 73

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 24530 right: 24748 frame: 3 size(aa): 73

<400> 304

Arg Ser Val Trp Thr Ser Ser Ala Ser Arg Arg Arg Arg Pro Ser Ser
1 5 10 15

Gly Ser Gly Thr Pro Arg Pro Asn Trp Pro Pro Ala Ser Met Arg Trp
20 25 30

Thr Gly Pro Arg Arg Trp Leu Pro Pro Trp Pro Ala Gly Ser Arg Ser
35 40 45

Leu Leu Gly Arg Cys Gly Ala Arg Thr Gly Ala Pro Pro Ala Arg Pro
50 55 60

Cys Arg Ala Ser Val Thr Cys Trp Gly
65 70

<210> 305

<211> 784

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 24575 right: 26926 frame: -3 size(aa): 784

<400> 305

Glu Gly Pro Ala Ser Gly Val Gly Asp Gly Ala Asp Arg Trp Gly Pro
1 5 10 15

Arg Arg Pro Val Ala Leu Pro Ser Tyr Pro Arg Gly Ser Gly Val Asp
20 25 30

Ser Glu Arg Arg Ile Ala Asp Gln Leu Asp Asp Arg His Gln Ala Gly
35 40 45

Leu Gly Val Asp Glu Leu Pro Ala Val Gly Ile Asp Gln Val Gly Val
50 55 60

Leu Gly Val Val Arg Gly Val Gly Leu Val Gly Asp Pro Glu Asp Pro
65 70 75 80

His Arg Ala Val Pro Val Gly Gly Glu His Leu Leu Glu Ala Glu Asp
85 90 95

Val Leu Pro Val Ala His Pro Glu Val Ala Leu Asp Ala Leu Pro Asp
100 105 110

Gly Ala Val Gly His Gln Val Asp Gly Val Leu Val Pro Ile Gly Gly
115 120 125

Val Asp Arg Arg Gly Glu Gln Val Val His Asp Asp Thr Glu Ala Ser
130 135 140

His Val Gly Asn Ala Gly Leu Gly Asp Pro Asp Ala Ala Ala Ala Pro
 145 150 155 160
 Leu Asp Leu Ala Pro Gly Gly Gln Ala Val Gly Ala Glu Gly Gln His
 165 170 175
 Pro Asp Gly Leu Gln Val Val Arg Lys Ile Ala Val His Gly Arg Asp
 180 185 190
 Leu Glu His Gly Ala Pro Leu Thr Glu Pro Gly Leu Thr Pro Glu His
 195 200 205
 His Arg Arg Ala Gln Glu Val Val Arg Val Ala Arg Ala Gly Ala Gly
 210 215 220
 Pro Ala Asp Val Asn His Val Gly Gly Gly Gln Gly Ala Pro Glu Gly
 225 230 235 240
 Ala Leu His Gly Gly Gln Gly Pro Leu Arg Leu Glu Ala Leu Gly Pro
 245 250 255
 Gly Asp Asp Val Gly Leu Glu Gly Arg His Arg Val Asp Ala Gly Asp
 260 265 270
 Asp Leu Gly Glu Leu Val Gly Ala Gly Ser Glu Ala Pro Val His Asp
 275 280 285
 Gly Glu Phe Pro Val Pro Gly Val Glu Leu Leu Gly Gly Gln Val Ala
 290 295 300
 Phe Ala Ala Gly Ala Pro Gly Ala Val Ala Leu Asp Arg Leu Arg Arg
 305 310 315 320
 Gly Asp Glu Arg Val Asp Gln Gly Gln Ala Asp Arg Gly Ala Pro Val
 325 330 335
 Ala Gly Val Glu Pro Phe Val Ala Leu Asp Arg Ala Gly Val Asp Pro
 340 345 350
 Gly Glu Ala Val Glu His Leu Leu Thr Asp Gly Gly Pro Glu Leu Gly
 355 360 365
 Ala Val Gly Glu Leu Pro Gln Val Ala Cys Glu Arg Gly Ala Pro Val
 370 375 380
 Gly Gly Pro Ala Arg Ala Asp Ala Asp Gly Gly Gly Gly Glu Thr
 385 390 395 400
 Pro Glu Val Ala Gln Val Gly Cys Leu Ser His Gly Gly Leu Ser Gly
 405 410 415
 Gly Gly Leu Arg Asp Ala Gly Cys Gly Leu His Leu Gly Gly Glu Leu
 420 425 430
 Trp Val Leu Gly Leu Glu Arg Gln Leu Pro Gly Pro Val Pro Ala Gly
 435 440 445
 Phe Gly Pro Gly Val Gly Asp Val Leu Cys Cys Ala Ala Thr Ala Thr
 450 455 460
 Asp Gly Gly Arg Arg Asp Arg Gly Ala His Ala Ser Pro Thr Ala Gly

465 470 475 480
 Gly Lys Val Val Leu Glu Ser Gly Val Gly Arg Leu Glu Ala Gly His
 485 490 495
 Val Leu Gly Gln Val Pro Leu Asp Ser Pro Leu Gln Glu Gly Glu Ala
 500 505 510
 Gly Phe Gly Leu Pro Asp Ala Ala Thr Lys Asp Gly Val Gln Leu Leu
 515 520 525
 Arg Ser Asp His Ala Gly Arg Met Glu Asp Gly Gln Gly Gly Arg Leu
 530 535 540
 Glu Pro Phe Ala Leu Leu Ala Phe Leu Leu Gly Leu Asp Leu Cys Leu
 545 550 555 560
 Glu Arg Gly His Leu Gly Leu Glu Gly Arg His Gly Leu Leu Gly Arg
 565 570 575
 Leu Pro Lys Gly Leu Val Leu Leu Leu Val Leu Glu Leu Gly Leu Gly
 580 585 590
 Leu Leu Pro Lys Leu Ala Leu Gln Val Gly Gln Ala Leu Val Glu Leu
 595 600 605
 Gly Val Gly Leu Ala Gln Ala Leu Leu Val Leu Phe Asp Gln Val Glu
 610 615 620
 Leu Gly Lys Gly Arg Arg Gln Leu Leu Gly Asp Val Ala Ala Gly Arg
 625 630 635 640
 His Trp Arg Ser Gly Val Cys Leu Arg Arg Arg Leu Arg His Trp Arg
 645 650 655
 Gly Arg Gly Leu Arg Cys His Ser Gly Ala Asp Ser Arg Thr Glu Ser
 660 665 670
 Ala Tyr Glu Ala Ser Pro Trp Pro Tyr Ser Trp Ile Cys Arg Arg Pro
 675 680 685
 Cys Arg Trp Gly Ala Pro Arg Ala Pro Arg Pro Arg Arg Thr Gly Pro
 690 695 700
 Gly Arg Gly Pro Arg Gly Arg Ala Pro Arg Phe Asp Trp Gln Ala Ser
 705 710 715 720
 Gly Leu Val Lys Val Leu Thr Pro Ala Cys Tyr Arg Cys Pro Ala Gly
 725 730 735
 Pro Cys Arg Arg Ser Pro Ser Pro Arg Ser Ala Ser Pro Gln Gln Arg
 740 745 750
 Pro Thr Pro Ser Gly Pro Gly Trp Gln Pro Ser Pro Arg Thr Gly Pro
 755 760 765
 Pro His Arg Gly Arg Trp Pro Val Trp Pro Trp Arg Pro Gly Ser Ala
 770 775 780

<210> 306

<211> 316

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 24751 right: 25698 frame: -2 size(aa): 316

<400> 306

Ala Met Val Ala Ser Gln Val Val Val Tyr Val Thr Pro Ala Ala Ala
1 5 10 15

Phe Ile Trp Ala Ala Ser Ser Gly Phe Leu Ala Trp Ser Ala Ser Cys
20 25 30

Pro Val Arg Phe Gln Pro Ala Leu Val Gln Gly Leu Glu Thr Ser Ser
35 40 45

Ala Ala Leu Pro Pro Pro Pro Thr Gly Ala Ala Glu Thr Gly Val Pro
50 55 60

Met Pro Arg Pro Pro Leu Gly Ala Lys Trp Cys Ser Asn Pro Glu Leu
65 70 75 80

Gly Ala Leu Arg Leu Ala Thr Tyr Trp Ala Arg Ser Arg Ser Thr Pro
85 90 95

Pro Cys Arg Lys Ala Arg Pro Asp Ser Val Cys Arg Met Pro Pro Pro
100 105 110

Arg Met Val Tyr Ser Cys Ser Gly Ala Thr Thr Pro Ala Glu Trp Lys
115 120 125

Thr Ala Arg Ala Asp Asp Leu Ser Arg Ser Arg Cys Trp Pro Ser Phe
130 135 140

Ser Val Ser Ile Cys Val Leu Ser Val Ala Thr Ser Val Ser Arg Val
145 150 155 160

Ala Thr Val Cys Leu Ala Ala Ser Gln Arg Ala Leu Tyr Cys Cys Trp
165 170 175

Ser Ser Ser Leu Ala Ser Val Cys Ser Arg Ser Trp Arg Ser Arg Ser
180 185 190

Val Arg Arg Trp Leu Ser Ser Val Leu Val Trp Pro Arg Arg Cys Leu
195 200 205

Ser Cys Leu Thr Arg Ser Ser Leu Ala Arg Ala Ala Asp Ser Cys Trp
210 215 220

Ala Thr Ser Pro Leu Gly Ala Thr Gly Ala Ala Gly Ser Ala Ser Gly
225 230 235 240

Val Gly Ser Ala Thr Gly Gly Val Gly Val Cys Ala Ala Ile Arg Gly
245 250 255

Leu Ile Arg Gly Arg Ser Gln Arg Thr Arg Leu Arg Leu Gly Leu Thr
260 265 270

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Leu Gly Phe Ala Gly Gly Leu Ala Gly Gly Gly Arg Leu Gly Arg His
275 280 285

Val Leu Gly Val Pro Ala Gln Val Gly Ala Pro Gly Ala Gly His Pro
290 295 300

Asp Leu Ile Gly Arg His Arg Ala Ser Ser Arg Phe
305 310 315

<210> 307

<211> 53

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 24752 right: 24910 frame: 3 size(aa): 53

<400> 307

Asn Leu Asp Glu Ala Arg Cys Leu Pro Ile Lys Ser Gly Cys Pro Ala
1 5 10 15

Pro Gly Ala Pro Thr Trp Ala Gly Thr Pro Arg Thr Trp Arg Pro Arg
20 25 30

Arg Pro Pro Pro Ala Arg Pro Pro Ala Asn Pro Arg Val Arg Pro Arg
35 40 45

Arg Ser Leu Val Arg
50

<210> 308

<211> 74

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 24760 right: 24981 frame: 2 size(aa): 74

<400> 308

Arg Gly Pro Met Pro Ala Asn Gln Ile Trp Val Pro Gly Pro Trp Gly
1 5 10 15

Pro Asp Leu Gly Arg Tyr Ala Glu Asp Val Ala Pro Glu Ala Pro Pro
20 25 30

Thr Gly Lys Ala Ala Gly Lys Ser Lys Ser Lys Ala Lys Ala Lys Pro
35 40 45

Arg Thr Leu Thr Pro Ser Ala Asn Gln Pro Pro Asn Gly Ser Ala Asn
50 55 60

Pro Asp Pro Ala Ser Gly Gly Ala Asp Ala
65 70

<210> 309

<211> 77
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 24888 right: 25118 frame: 1 size(aa): 77

<400> 309

Gly Gln Gly Glu Ala Ser Tyr Ala Asp Ser Val Arg Glu Ser Ala Pro
1 5 10 15
Glu Trp Gln Arg Lys Pro Arg Pro Arg Gln Trp Arg Ser Arg Arg Leu
20 25 30
Arg Gln Thr Pro Leu Arg Gln Trp Arg Pro Ala Ala Thr Ser Pro Ser
35 40 45
Ser Cys Leu Arg Pro Leu Pro Ser Ser Thr Trp Ser Asn Arg Thr Ser
50 55 60
Ser Ala Trp Ala Arg Pro Thr Pro Ser Ser Thr Asn Ala
65 70 75

<210> 310
<211> 252
<212> PRT
<213> Cyanophage S-2L
<220>
<221> misc_feature
<223> New ORF = left: 24914 right: 25669 frame: 3 size(aa): 252

<400> 310

Leu Arg Pro Arg Ile Ser Pro Arg Met Ala Ala Gln Thr Pro Thr Pro
1 5 10 15
Pro Val Ala Glu Pro Thr Pro Glu Ala Asp Pro Ala Ala Pro Val Ala
20 25 30
Pro Ser Gly Asp Val Ala Gln Gln Leu Ser Ala Ala Leu Ala Lys Leu
35 40 45
Asp Leu Val Lys Gln Asp Lys Gln Arg Leu Gly Gln Thr Asn Thr Glu
50 55 60
Leu Asn Gln Arg Leu Thr Asp Leu Glu Arg Gln Leu Arg Glu Gln Thr
65 70 75 80
Glu Ala Lys Leu Glu Asp Gln Gln Gln Tyr Lys Ala Leu Trp Glu Ala
85 90 95
Ala Lys Gln Thr Val Ala Thr Leu Glu Thr Glu Val Ala Thr Leu Lys
100 105 110
Thr Gln Ile Glu Thr Glu Lys Glu Gly Gln Gln Arg Glu Arg Leu Lys
115 120 125

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Ser Ser Ala Leu Ala Val Phe His Ser Ala Gly Val Val Ala Pro Glu
130                      135                      140

Gln Leu Tyr Thr Ile Leu Gly Gly Gly Ile Arg Gln Thr Glu Ser Gly
145                      150                      155                      160

Leu Ala Phe Leu Gln Gly Gly Val Glu Arg Asp Leu Ala Gln Tyr Val
165                      170                      175

Ala Ser Leu Lys Ala Pro Asn Ser Gly Phe Glu His His Phe Ala Pro
180                      185                      190

Ser Gly Gly Arg Gly Met Gly Thr Pro Val Ser Ala Ala Pro Val Gly
195                      200                      205

Gly Gly Gly Ser Ala Ala Glu Asp Val Ser Asn Pro Trp Thr Lys Ala
210                      215                      220

Gly Trp Asn Arg Thr Gly Gln Leu Ala Leu Gln Ala Lys Asn Pro Glu
225                      230                      235                      240

Leu Ala Ala Gln Met Lys Ala Ala Ala Gly Val Thr
245                      250

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<210> 311

<211> 287

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 24985 right: 25845 frame: 2 size(aa): 287

<400> 311

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Gly Arg Pro Arg Cys Ala Ser Gly Ala Gln Arg Arg Arg Arg Pro Ala
1                      5                      10                      15

Ala Val Cys Gly Pro Cys Gln Ala Arg Pro Gly Gln Thr Gly Gln Ala
20                      25                      30

Ala Pro Gly Pro Asp Gln His Arg Ala Gln Pro Thr Pro Asp Arg Pro
35                      40                      45

Gly Ala Pro Ala Ser Gly Ala Asp Arg Gly Gln Ala Arg Gly Pro Ala
50                      55                      60

Ala Val Gln Gly Pro Leu Gly Gly Gly Gln Ala Asp Arg Gly Asp Pro
65                      70                      75                      80

Arg Asp Arg Gly Gly His Ala Gln Asp Thr Asp Arg Asp Arg Glu Gly
85                      90                      95

Arg Pro Thr Ala Arg Thr Ala Gln Val Val Arg Pro Gly Arg Leu Pro
100                     105                     110

Phe Cys Arg Arg Gly Arg Ser Gly Ala Ala Val His His Pro Trp Trp
115                     120                     125

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Arg His Pro Ala Asp Arg Ile Arg Pro Arg Leu Pro Ala Gly Gly Ser
130 135 140

Arg Ala Gly Pro Gly Pro Val Arg Gly Gln Pro Gln Gly Ala Gln Leu
145 150 155 160

Arg Ile Arg Ala Pro Leu Cys Pro Gln Arg Trp Ala Arg His Gly His
165 170 175

Pro Gly Leu Cys Gly Pro Arg Arg Trp Arg Trp Gln Arg Ser Arg Gly
180 185 190

Arg Leu Gln Pro Leu Asp Gln Ser Arg Leu Glu Pro Asp Arg Ala Thr
195 200 205

Gly Ala Pro Gly Gln Glu Pro Arg Ala Arg Arg Pro Asp Glu Gly Arg
210 215 220

Ser Arg Arg His Val Asn His His Leu Arg Gly His His Gly Ser Ser
225 230 235 240

Ser Pro Pro Gly Gln Leu Arg Gly Phe His His Pro His Pro Arg Arg
245 250 255

His Arg Leu Glu Arg Val Pro Gln Leu Gly His His Val Arg Arg Arg
260 265 270

Pro Gly Gly Ala Arg Gln Pro Pro Arg Val Arg Gly Arg His Pro
275 280 285

<210> 312

<211> 175

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 25122 right: 25646 frame: 1 size(aa): 175

<400> 312

Pro Thr Trp Ser Ala Ser Phe Gly Ser Arg Pro Arg Pro Ser Ser Arg
1 5 10 15

Thr Ser Ser Ser Thr Arg Pro Phe Gly Arg Arg Pro Ser Arg Pro Trp
20 25 30

Arg Pro Ser Arg Pro Arg Trp Pro Arg Ser Arg His Arg Ser Arg Pro
35 40 45

Arg Arg Lys Ala Asn Ser Ala Asn Gly Ser Ser Arg Pro Pro Trp Pro
50 55 60

Ser Ser Ile Leu Pro Ala Trp Ser Leu Arg Ser Ser Cys Thr Pro Ser
65 70 75 80

Leu Val Ala Ala Ser Gly Arg Pro Asn Pro Ala Ser Pro Ser Cys Arg
85 90 95

Gly Glu Ser Ser Gly Thr Trp Pro Ser Thr Trp Pro Ala Ser Arg Arg

100 105 110
Pro Thr Pro Asp Ser Ser Thr Thr Leu Pro Pro Ala Val Gly Glu Ala
115 120 125
Trp Ala Pro Arg Ser Leu Arg Pro Pro Ser Val Ala Val Ala Ala Gln
130 135 140
Gln Arg Thr Ser Pro Thr Pro Gly Pro Lys Pro Ala Gly Thr Gly Pro
145 150 155 160
Gly Asn Trp Arg Ser Arg Pro Arg Thr Gln Ser Ser Pro Pro Arg
165 170 175

<210> 313
<211> 51
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 25296 right: 25448 frame: -1 size(aa): 51

<400> 313
Gly Trp Pro Arg Thr Gly Pro Gly Pro Ala Arg Leu Pro Pro Ala Gly
1 5 10 15
Arg Arg Gly Arg Ile Arg Ser Ala Gly Cys Arg His Gln Gly Trp Cys
20 25 30
Thr Ala Ala Pro Glu Arg Pro Arg Arg Gln Asn Gly Arg Arg Pro Gly
35 40 45
Arg Thr Thr
50

<210> 314
<211> 71
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 25452 right: 25664 frame: -1 size(aa): 71

<400> 314
Arg Arg Leu Arg Pro Ser Ser Gly Arg Arg Ala Leu Gly Ser Trp Pro
1 5 10 15
Gly Ala Pro Val Ala Arg Ser Gly Ser Ser Arg Leu Trp Ser Arg Gly
20 25 30
Trp Arg Arg Pro Leu Leu Arg Cys His Arg His Arg Arg Gly Pro Gln
35 40 45
Arg Pro Gly Cys Pro Cys Leu Ala His Arg Trp Gly Gln Ser Gly Ala
50 55 60

Arg Ile Arg Ser Trp Ala Pro
65 70

<210> 315

<211> 99

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 25650 right: 25946 frame: 1 size(aa): 99

<400> 315

Arg Pro Gln Pro Ala Ser Arg Lys Pro Pro Pro Glu Arg Pro Pro Trp
1 5 10 15

Leu Lys Gln Pro Thr Trp Ala Thr Ser Gly Val Ser Pro Pro Pro Pro
20 25 30

Pro Ser Ala Ser Ala Arg Ala Gly Pro Pro Thr Gly Ala Pro Arg Ser
35 40 45

Gln Ala Thr Trp Gly Ser Ser Pro Thr Ala Pro Ser Ser Gly Pro Pro
50 55 60

Ser Val Arg Arg Cys Ser Thr Ala Ser Pro Gly Ser Thr Pro Ala Arg
65 70 75 80

Ser Ser Ala Thr Asn Gly Ser Thr Pro Ala Thr Gly Ala Pro Arg Ser
85 90 95

Ala Cys Pro

<210> 316

<211> 385

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 25685 right: 26839 frame: 3 size(aa): 385

<400> 316

Glu Ala Thr Met Ala Gln Ala Ala His Leu Gly Asn Phe Gly Gly Phe
1 5 10 15

Thr Thr Pro Thr Pro Val Gly Ile Gly Ser Ser Gly Ser Pro Asn Trp
20 25 30

Gly Thr Thr Phe Ala Gly Asp Leu Gly Glu Leu Ala Asn Arg Pro Glu
35 40 45

Phe Gly Ala Ala Ile Arg Glu Glu Val Phe Asn Ser Phe Ala Trp Ile
50 55 60

Asn Ser Gly Ala Ile Gln Arg Asp Glu Arg Leu Asp Ala Arg Asn Arg
 65 70 75 80
 Gly Ala Ser Ile Ser Leu Pro Leu Ile Asn Pro Phe Ile Pro Thr Ser
 85 90 95
 Glu Thr Ile Lys Ser Asn Ser Thr Trp Gly Ala Ser Gly Lys Gly Tyr
 100 105 110
 Leu Thr Pro Gln Lys Leu Asn Ala Gly Asp Trp Lys Leu Pro Ile Val
 115 120 125
 His Arg Gly Phe Ala Ala Gly Ala Asp Glu Leu Ser Glu Ile Ile Thr
 130 135 140
 Gly Ile Asp Pro Met Ala Ala Leu Glu Ser Tyr Ile Val Ala Gly Ala
 145 150 155 160
 Gln Arg Leu Glu Thr Gln Arg Ala Leu Ala Thr Met Glu Gly Ala Leu
 165 170 175
 Arg Gly Pro Leu Ser Thr Thr His Val Val Asp Ile Ser Arg Thr Gly
 180 185 190
 Thr Gly Pro Ser Asp Ala Asp Asn Phe Leu Ser Ser Ser Val Met Leu
 195 200 205
 Arg Gly Lys Ala Arg Leu Gly Glu Arg Gly Ser Met Leu Gln Ile Ala
 210 215 220
 Ala Met His Ser Asp Leu Ala His Tyr Leu Glu Ser Val Gly Met Leu
 225 230 235 240
 Thr Phe Ser Ser Asp Ser Leu Thr Ala Gly Gly Glu Ile Lys Trp Gly
 245 250 255
 Gly Gly Gly Ile Gly Val Thr Gln Ala Arg Val Ala Asp Met Ala Gly
 260 265 270
 Phe Arg Val Ile Val Asp Asp Leu Leu Ala Pro Thr Ile Asp Ala Thr
 275 280 285
 Asn Gly Asp Lys Tyr Pro Val Tyr Leu Met Ala Asn Gly Ala Ile Arg
 290 295 300
 Gln Gly Ile Gln Arg Asp Phe Arg Val Arg Tyr Gly Glu Asn Ile Leu
 305 310 315 320
 Ser Phe Gln Glu Val Leu Ala Ala Asp Trp His Gly Ser Met Gly Val
 325 330 335
 Leu Gly Ile Ser Tyr Glu Ser Asn Ala Pro Asp Asn Pro Glu Asp Ala
 340 345 350
 Asp Leu Ile Asp Pro Asp Ser Trp Glu Leu Val Tyr Thr Glu Pro Arg
 355 360 365
 Leu Val Pro Ile Val Lys Leu Val Cys Asn Ser Pro Phe Ala Val Asn
 370 375 380

Pro

385

<210> 317

<211> 105

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 25702 right: 26016 frame: -2 size(aa): 105

<400> 317

Pro Leu Pro Leu Ala Pro Gln Val Leu Leu Leu Ile Val Ser Asp
1 5 10 15

Val Gly Met Asn Gly Leu Ile Arg Gly Arg Leu Ile Glu Ala Pro Arg
20 25 30

Leu Arg Ala Ser Ser Arg Ser Ser Arg Trp Ile Ala Pro Glu Leu Ile
35 40 45

Gln Ala Lys Leu Leu Asn Thr Ser Ser Arg Met Ala Ala Pro Asn Ser
50 55 60

Gly Arg Leu Ala Ser Ser Pro Arg Ser Pro Ala Asn Val Val Pro Gln
65 70 75 80

Leu Gly Asp Pro Leu Glu Pro Met Pro Thr Gly Val Gly Val Val Lys
85 90 95

Pro Pro Lys Leu Pro Arg Trp Ala Ala
100 105

<210> 318

<211> 131

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 25849 right: 26241 frame: 2 size(aa): 131

<400> 318

Gly Gly Val Gln Gln Leu Arg Leu Asp Gln Leu Arg Arg Asp Pro Ala
1 5 10 15

Arg Arg Thr Ala Arg Arg Pro Gln Pro Gly Arg Leu Asp Gln Pro Ala
20 25 30

Pro Asp Gln Pro Val His Pro His Val Gly Asp Asp Gln Glu Gln Gln
35 40 45

His Leu Gly Arg Gln Arg Gln Arg Leu Pro Asp Pro Pro Glu Ala Gln
50 55 60

Arg Arg Gly Leu Glu Thr Pro His Arg Ala Pro Gly Leu Arg Cys Arg
65 70 75 80

```

Arg Arg Arg Ala Leu Arg Asp His His Arg His Arg Pro Asp Gly Gly
      85                      90                      95

Pro Arg Val Leu His Arg Arg Arg Gly Pro Ala Pro Arg Asp Ala Thr
      100                    105                    110

Gly Pro Gly His His Gly Gly Arg Pro Pro Gly Pro Pro Val His His
      115                    120                    125

Pro Arg Gly
      130

```

```

<210> 319
<211> 88
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 26025 right: 26288 frame: 1 size(aa): 88

```

```

<400> 319

```

```

Pro Pro Arg Ser Ser Thr Pro Gly Thr Gly Asn Ser Pro Ser Cys Thr
1      5      10      15

Gly Ala Ser Leu Pro Ala Pro Thr Ser Ser Pro Arg Ser Ser Pro Ala
      20      25      30

Ser Thr Arg Trp Arg Pro Ser Ser Pro Thr Ser Ser Pro Gly Pro Ser
      35      40      45

Ala Ser Arg Arg Asn Gly Pro Trp Pro Pro Trp Arg Ala Pro Ser Gly
      50      55      60

Ala Pro Cys Pro Pro Pro Thr Trp Leu Thr Ser Ala Gly Pro Ala Pro
65      70      75      80

Ala Arg Ala Thr Arg Thr Thr Ser
      85

```

```

<210> 320
<211> 77
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 26149 right: 26379 frame: -2 size(aa): 77

```

```

<400> 320

```

```

Cys Ala Arg Ser Leu Cys Met Ala Ala Ile Trp Ser Met Glu Pro Arg
1      5      10      15

Ser Pro Ser Arg Ala Leu Pro Arg Ser Ile Thr Glu Glu Leu Arg Lys
      20      25      30

```

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Leu Ser Ala Ser Leu Gly Pro Val Pro Val Arg Leu Met Ser Thr Thr
 35 40 45

Trp Val Val Asp Arg Gly Pro Arg Arg Ala Pro Ser Met Val Ala Arg
 50 55 60

Ala Arg Cys Val Ser Arg Arg Trp Ala Pro Ala Thr Met
 65 70 75

<210> 321

<211> 53

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 26250 right: 26408 frame: -1 size(aa): 53

<400> 321

Arg Ser Ala Ser Arg Arg Thr Pro Gly Ser Ala Gln Asp Arg Cys Ala
 1 5 10 15

Trp Pro Arg Ser Gly Ala Trp Ser Pro Ala His Arg Ala Gly Pro Tyr
 20 25 30

Pro Gly Ala Ser Pro Lys Ser Ser Gly Ser Cys Pro Arg Arg Ser Gly
 35 40 45

Arg Cys Arg Ser Gly
 50

<210> 322

<211> 244

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 26332 right: 27063 frame: 2 size(aa): 244

<400> 322

Ala Gly Leu His Ala Pro Asp Arg Gly His Ala Gln Arg Ser Cys Ala
 1 5 10 15

Leu Pro Gly Val Arg Arg Asp Ala Asp Leu Gln Leu Arg Gln Pro Asp
 20 25 30

Arg Arg Gly Arg Asp Gln Val Gly Arg Arg Arg His Arg Gly His Pro
 35 40 45

Gly Pro Arg Cys Arg His Gly Trp Leu Pro Cys His Arg Gly Arg Pro
 50 55 60

Ala Arg Pro Asp Asp Arg Arg His Gln Trp Gly Gln Val Pro Arg Leu
 65 70 75 80

Pro Asp Gly Gln Arg Arg His Pro Ala Gly His Pro Ala Arg Leu Pro

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85					90					95					
Gly	Ala	Leu	Arg	Gly	Glu	His	Pro	Gln	Leu	Pro	Gly	Gly	Ala	Arg	Arg
			100					105					110		
Arg	Leu	Ala	Arg	Leu	Asp	Gly	Gly	Pro	Arg	Asp	Leu	Leu	Arg	Val	Gln
		115					120					125			
Arg	Pro	Gly	Gln	Pro	Arg	Gly	Arg	Arg	Pro	Asp	Arg	Ser	Arg	Gln	Leu
		130					135					140			
Gly	Ala	Arg	Leu	His	Arg	Ala	Pro	Pro	Gly	Ala	Asp	Arg	Gln	Ala	Gly
				150							155				160
Leu	Gln	Phe	Ala	Val	Arg	Cys	Gln	Pro	Leu	Ser	Pro	Trp	Gly	Arg	Met
				165					170					175	
Ala	Arg	Pro	Arg	Asp	Ala	Val	Ala	Pro	Asn	Gly	Arg	Pro	Arg	Leu	Pro
			180					185					190		
Pro	Arg	Arg	Arg	Gly	Leu	Pro	Met	Leu	Gly	Arg	Cys	Cys	Ala	Pro	Arg
			195				200					205			
Trp	Ser	Ser	Ser	Pro	Leu	Thr	Trp	Pro	Thr	Pro	Thr	Pro	Thr	Trp	Leu
			210				215					220			
Trp	Ala	Pro	Gly	Ala	Pro	Ser	Gly	Trp	Pro	Ser	Gly	Thr	Lys	Pro	Pro
				230							235				240

Gly Arg Trp Pro

<210> 323

<211> 62

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 26383 right: 26568 frame: -2 size(aa): 62

<400> 323

Thr	Gly	Tyr	Leu	Ser	Pro	Leu	Val	Ala	Ser	Ile	Val	Gly	Ala	Ser	Arg
1				5					10					15	

Ser	Ser	Thr	Met	Thr	Arg	Lys	Pro	Ala	Met	Ser	Ala	Thr	Arg	Ala	Trp
			20					25					30		

Val	Thr	Pro	Met	Pro	Pro	Pro	Pro	His	Leu	Ile	Ser	Pro	Pro	Ala	Val
		35					40					45			

Arg	Leu	Ser	Glu	Leu	Lys	Val	Ser	Ile	Pro	Thr	Asp	Ser	Arg		
	50					55					60				

<210> 324

<211> 56

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 26577 right: 26744 frame: 1 size(aa): 56

<400> 324

Trp Pro Thr Ala Pro Ser Gly Arg Ala Ser Ser Ala Thr Ser Gly Cys
1 5 10 15

Ala Thr Gly Arg Thr Ser Ser Ala Ser Arg Arg Cys Ser Pro Pro Thr
20 25 30

Gly Thr Ala Arg Trp Gly Ser Ser Gly Ser Pro Thr Ser Pro Thr Pro
35 40 45

Arg Thr Thr Pro Arg Thr Pro Thr
50 55

<210> 325

<211> 52

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 26646 right: 26801 frame: -1 size(aa): 52

<400> 325

Arg Ser Ala Pro Gly Gly Ala Arg Cys Arg Arg Ala Pro Ser Cys Arg
1 5 10 15

Asp Arg Ser Gly Arg Arg Pro Arg Gly Cys Pro Gly Arg Trp Thr Arg
20 25 30

Arg Arg Ser Arg Gly Pro Pro Ser Ser Arg Ala Ser Arg Arg Arg Ala
35 40 45

Pro Pro Gly Ser
50

<210> 326

<211> 428

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 26776 right: 28059 frame: -2 size(aa): 428

<400> 326

Gly Arg Leu Leu Val Arg Cys Thr Ser Ser Pro Ala Thr Arg Arg Arg
1 5 10 15

Ala Ser Ala Ser Asp Cys Gly Val Leu Ala Pro Ser Gly Ala Thr Ser
20 25 30

Leu Glu Gly Arg Leu Leu Leu Ala Asn Gln Glu Glu Arg Asn Arg Pro
 35 40 45
 Val Ser Thr Gly Leu Thr Ala Ala Leu Pro Arg Ser Ala Trp Ala Trp
 50 55 60
 Thr Thr Val Arg Arg Ser Trp Ala Pro Arg Ala Ser Asp Arg Cys Phe
 65 70 75 80
 Leu Ser Ala Ser Gly Ser Leu Asn Val Gly Ile Leu Val Leu Thr Asn
 85 90 95
 Glu Leu Ala Gly Asp Gln Ala Leu Ala Gly Val Gly Gly Val Gly Phe
 100 105 110
 Cys Asp Ala Pro Asp Pro Ala Val Val Gly Asp Gly Val Pro Gly Gly
 115 120 125
 Trp Phe Val Arg Glu Ala Pro Gly Pro Met Val Asp Pro Glu Pro His
 130 135 140
 Leu Pro Gly Leu Leu Gly Ala Ala Pro Leu Ala Leu Ala Ile Ala Gln
 145 150 155 160
 His Pro Gly Ile Asp Arg Val Leu Asp Asp Val Pro Gly Glu His Pro
 165 170 175
 Arg Gly Arg Val Val Gly Leu Gly Leu Gly Pro Pro Val Gln Asp Arg
 180 185 190
 Arg Gly Glu Gly Pro Val Asp Gln Leu Gly Arg Asp Arg Gln Glu Gly
 195 200 205
 Gly Gly Asn Val His Thr Ala Arg Leu Leu Ser Cys Gly Pro Gly Ala
 210 215 220
 Gly Leu Trp Thr Cys Ser Ala Ala Ser Ile Pro Gly Ser Ser Arg Ser
 225 230 235 240
 Arg Gly Arg Pro Ala Ala Gly Gly Gly Arg Phe Gly Arg Ser Gly Ser
 245 250 255
 Ser Thr Arg Pro Ser Arg Arg Thr Thr Ala Gly Gly Arg Pro Gly Pro
 260 265 270
 Asp Ser Trp Pro Arg Ala Arg Pro Gly Cys Arg Arg Gly Pro Arg Leu
 275 280 285
 Gln Asn Arg Gly Val Gly Pro Gly Pro Pro Arg Arg Leu Pro Ser Pro
 290 295 300
 Ser Thr Arg Arg Met Ala Trp Arg Arg Arg Pro Ser Gly Gly Pro Gly
 305 310 315 320
 Ser Ala Ala Ser Gly Ala Ser Gly Thr Pro Arg Ser Gly Pro Pro Ala
 325 330 335
 Gly Arg Leu Arg Pro Arg Arg Pro Ala Arg Gly Gly Pro Gly Arg Pro
 340 345 350
 Glu Pro Cys Arg Arg Arg Arg Arg Pro Gly Gln Arg Gly Gly Ala Pro

355	360	365
Ser Gly Gly Thr Ala Pro Pro Gln His Arg Lys Ala Pro Pro Pro Gly		
370	375	380
Trp Glu Thr Gly Pro Thr Val Gly Gly His Gly Val Pro Trp Pro Cys		
385	390	395
His Pro Thr Pro Gly Ala Gln Gly Leu Thr Ala Asn Gly Glu Leu Gln		
405	410	415
Thr Ser Leu Thr Ile Gly Thr Arg Arg Gly Ser Val		
420	425	

<210> 327
 <211> 115
 <212> PRT
 <213> Cyanophage S-2L

 <220>
 <221> misc_feature
 <223> New ORF = left: 26835 right: 27179 frame: -1 size(aa): 115

<400> 327

Gly Gln Gly His Leu Gly Val Cys Arg His Pro Ala Leu Val Glu Trp		
1	5	10
Pro Gly Ala Gly Val Arg Arg Ala Val Pro Asp Arg Gln Arg Leu Glu		
20	25	30
Pro Ala Glu Arg Leu Gly Gln Gly His Leu Pro Gly Gly Phe Val Pro		
35	40	45
Asp Gly Gln Pro Glu Gly Ala Pro Gly Ala Gln Ser His Val Gly Val		
50	55	60
Gly Val Gly Gln Val Asn Gly Glu Glu Leu His Arg Gly Ala Gln His		
65	70	75
Arg Pro Asn Ile Gly Arg Pro Arg Leu Arg Gly Gly Arg Arg Gly Arg		
85	90	95
Pro Leu Gly Ala Thr Ala Ser Arg Gly Leu Ala Ile Leu Pro Gln Gly		
100	105	110
Leu Arg Gly		
115		

<210> 328
 <211> 183
 <212> PRT
 <213> Cyanophage S-2L

 <220>
 <221> misc_feature
 <223> New ORF = left: 26856 right: 27404 frame: 1 size(aa): 183

<400> 328

```

- Asp Gly Lys Ala Thr Gly Arg Arg Gly Pro Gln Arg Ser Ala Pro Ser
. 1          5          10          15

- Pro Thr Pro Glu Ala Gly Pro Ser Tyr Val Gly Ala Val Leu Cys Pro
. 20          25          30

- Pro Met Glu Leu Leu Pro Val Asp Leu Ala Asp Ala Asp Ala Tyr Met
. 35          40          45

- Ala Leu Gly Ala Arg Gly Pro Leu Trp Leu Ala Val Gly Asp Glu Ala
. 50          55          60

Ala Arg Gln Val Ala Leu Thr Glu Ala Phe Arg Trp Leu Gln Thr Leu
65          70          75          80

Pro Ile Arg Asp Arg Pro Thr Asp Ala Cys Ala Arg Pro Phe Asp Glu
85          90          95

Cys Trp Val Thr Ala Asn Ala Glu Val Ala Leu Ala Leu His Arg Asp
100         105         110

Ser Ala Ala Val Val Pro Ala Gly Ser Gln Ala Gly Pro Val Ala Lys
115         120         125

Ser Gln Ala Leu Gly Ala Leu Gln Gln Ser Phe Phe Ser Met Ala Glu
130         135         140

Trp Lys Thr Arg Tyr Asp Gln Asn Asp His Pro Leu Leu Arg Ala Phe
145         150         155         160

Pro Trp Ile Tyr Ser Ile Leu Gly Cys Trp Leu Pro Ser Lys Ser Lys
165         170         175

Val Leu His Arg Val Arg Ser
180

```

<210> 329

<211> 162

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 26975 right: 27460 frame: 3 size(aa): 162

<400> 329

```

Pro Gly Arg Arg Arg Arg Leu His Gly Ser Gly Arg Pro Gly Pro Pro
1          5          10          15

Leu Ala Gly Arg Arg Gly Arg Ser Arg Pro Ala Gly Gly Pro Asp Arg
20          25          30

Gly Val Pro Leu Ala Pro Asp Ala Ala Asp Pro Gly Pro Pro Asp Gly
35          40          45

Arg Leu Arg Gln Ala Ile Arg Arg Val Leu Gly Asp Gly Lys Arg Arg
50          55          60

```

Gly Gly Pro Gly Pro Thr Pro Arg Phe Cys Ser Arg Gly Pro Arg Arg
 65 70 75 80
 Gln Pro Gly Arg Ala Arg Gly Gln Glu Ser Gly Pro Gly Arg Pro Pro
 85 90 95
 Ala Val Val Leu Leu Asp Gly Arg Val Glu Asp Pro Leu Arg Pro Lys
 100 105 110
 Arg Pro Pro Pro Ala Ala Gly Leu Pro Leu Asp Leu Leu Asp Pro Gly
 115 120 125
 Met Leu Ala Ala Glu Gln Val Gln Ser Pro Ala Pro Gly Pro Gln Leu
 130 135 140
 Ser Ser Leu Ala Val Trp Thr Leu Pro Pro Pro Ser Cys Leu Ser Arg
 145 150 155 160
 Pro Ser

<210> 330
 <211> 82
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 26996 right: 27241 frame: -3 size(aa): 82

<400> 330

Leu Leu Ala Thr Gly Pro Ala Trp Leu Pro Ala Gly Thr Thr Ala Ala
 1 5 10 15
 Glu Ser Arg Cys Arg Ala Arg Ala Thr Ser Ala Phe Ala Val Thr Gln
 20 25 30
 His Ser Ser Asn Gly Leu Ala Gln Ala Ser Val Gly Arg Ser Arg Ile
 35 40 45
 Gly Ser Val Trp Ser Gln Arg Asn Ala Ser Val Arg Ala Thr Cys Arg
 50 55 60
 Ala Ala Ser Ser Pro Thr Ala Ser Gln Arg Gly Pro Arg Ala Pro Arg
 65 70 75 80
 Ala Met

<210> 331
 <211> 85
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 27154 right: 27408 frame: 2 size(aa): 85

<400> 331

Arg Gln Thr Pro Arg Trp Pro Trp Pro Tyr Thr Ala Ile Leu Gln Pro
1 5 10 15

Trp Ser Pro Pro Ala Ala Arg Pro Gly Pro Trp Pro Arg Val Arg Pro
20 25 30

Trp Ala Pro Ser Ser Ser Arg Ser Ser Arg Trp Pro Ser Gly Arg Pro
35 40 45

Ala Thr Thr Lys Thr Thr Thr Pro Cys Cys Gly Pro Ser Pro Gly Ser
50 55 60

Thr Arg Ser Trp Asp Ala Gly Cys Arg Ala Ser Pro Lys Ser Cys Thr
65 70 75 80

Gly Ser Ala Ala Glu
85

<210> 332

<211> 111

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 27183 right: 27515 frame: -1 size(aa): 111

<400> 332

Asp Ser Val Trp Ala Arg Arg Tyr Arg Ile Gly Val Gly Lys Val Leu
1 5 10 15

Ser Ile Ser Trp Ala Ala Thr Gly Arg Lys Val Ala Val Thr Ser Ile
20 25 30

Pro Pro Gly Tyr Ser Ala Ala Asp Pro Val Gln Asp Phe Gly Leu Ala
35 40 45

Arg Gln Pro Ala Ser Gln Asp Arg Val Asp Pro Gly Glu Gly Pro Gln
50 55 60

Gln Gly Val Val Val Leu Val Val Ala Gly Leu Pro Leu Gly His Arg
65 70 75 80

Glu Glu Arg Leu Leu Glu Gly Ala Gln Gly Leu Thr Leu Gly His Gly
85 90 95

Pro Gly Leu Ala Ala Gly Gly Asp His Gly Cys Arg Ile Ala Val
100 105 110

<210> 333

<211> 123

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 27408 right: 27776 frame: 1 size(aa): 123

<400> 333

Val Ala Trp Arg Tyr Gly Arg Tyr Arg His Leu Pro Ala Cys Arg Gly
 1 5 10 15

Pro Ala Asp Arg Gln Asp Leu Pro His Ala Asp Pro Val Pro Ala Gly
 20 25 30

Pro Asp Arg Val Leu Arg Pro Gly His Gly Gly Ala His Pro Gly Arg
 35 40 45

Arg Arg Val Pro Asp Gln Cys Arg Gly Ala Gly Leu Ser Gln Glu Arg
 50 55 60

Ala Glu Arg Arg Arg Gly Gly Pro Gly Gly Ala Ala Leu Asp Pro Pro
 65 70 75 80

Trp Ala Arg Gly Pro Pro Gly Arg Thr Asn His Arg Gly His Arg Arg
 85 90 95

Leu Arg Arg Arg Asp Leu Ala Arg His Arg Ser Arg Pro His Leu His
 100 105 110

Gln Pro Gly Pro Asp Arg Gln Pro Thr Arg Leu
 115 120

<210> 334

<211> 129

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 27412 right: 27798 frame: 2 size(aa): 129

<400> 334

Pro Gly Gly Met Asp Val Thr Ala Thr Phe Leu Pro Val Ala Ala Gln
 1 5 10 15

Leu Ile Asp Arg Thr Phe Pro Thr Pro Ile Leu Tyr Arg Arg Ala Gln
 20 25 30

Thr Glu Ser Tyr Asp Pro Ala Thr Gly Val Leu Thr Arg Asp Val Val
 35 40 45

Glu Tyr Pro Ile Asn Ala Gly Val Leu Gly Tyr Arg Lys Ser Glu Arg
 50 55 60

Ser Gly Ala Glu Glu Ala Arg Glu Val Arg Leu Trp Ile His His Gly
 65 70 75 80

Pro Gly Gly Leu Pro Asp Glu Pro Thr Thr Gly Asp Thr Val Ala Tyr
 85 90 95

Asp Gly Gly Ile Trp Arg Val Thr Glu Ala Asp Pro Thr Tyr Thr Ser
 100 105 110

Gln Gly Leu Ile Ala Ser Gln Leu Val Cys Glu Tyr Gln Tyr Ala Asp
115 120 125

Val

<210> 335

<211> 97

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 27464 right: 27754 frame: 3 size(aa): 97

<400> 335

Ser Thr Gly Pro Ser Pro Arg Arg Ser Cys Thr Gly Gly Pro Arg Pro
1 5 10 15

Ser Pro Thr Thr Arg Pro Arg Gly Cys Ser Pro Gly Thr Ser Ser Ser
20 25 30

Thr Arg Ser Met Pro Gly Cys Trp Ala Ile Ala Arg Ala Ser Gly Ala
35 40 45

Ala Pro Arg Arg Pro Gly Arg Cys Gly Ser Gly Ser Thr Met Gly Pro
50 55 60

Gly Ala Ser Arg Thr Asn Gln Pro Pro Gly Thr Pro Ser Pro Thr Thr
65 70 75 80

Ala Gly Ser Gly Ala Ser Gln Lys Pro Thr Pro Pro Thr Pro Ala Arg
85 90 95

Ala

<210> 336

<211> 50

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 27569 right: 27718 frame: -3 size(aa): 50

<400> 336

Arg Ala Arg Ser Arg Arg Arg Arg Arg Arg Cys Pro Arg Trp Leu Val
1 5 10 15

Arg Pro Gly Gly Pro Arg Ala His Gly Gly Ser Arg Ala Ala Pro Pro
20 25 30

Gly Pro Pro Arg Arg Arg Ser Ala Arg Ser Cys Asp Ser Pro Ala Pro
35 40 45

Arg His

50

```
<210> 337
<211> 197
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27722 right: 28312 frame: -3 size(aa): 197
```

<400> 337

[illegible]

```
<210> 338
<211> 145
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27758 right: 28192 frame: 3 size(aa): 145
```

<400> 338

```

Ser Pro Ala Asn Ser Phe Val Ser Thr Ser Met Pro Thr Phe Asn Asp
1          5          10          15

Pro Glu Ala Leu Lys Lys His Leu Ser Glu Ala Leu Gly Ala Gln Leu
          20          25          30

Arg Leu Thr Val Val Gln Ala Gln Ala Asp Leu Gly Ser Ala Ala Val
          35          40          45

Ser Pro Val Asp Thr Gly Arg Phe Arg Ser Ser Trp Phe Ala Ser Lys
          50          55          60

Ser Arg Pro Ser Ser Glu Val Ala Pro Glu Gly Ala Ser Thr Pro Gln
65          70          75          80

Ser Asp Ala Glu Ala Leu Arg Leu Val Ala Gly Asp Glu Val His Leu
          85          90          95

Thr Asn Ser Leu Pro Tyr Ala Glu Ala Val Ala Val Glu Gly Arg Val
          100          105          110

Val Ser Lys Pro Ala Thr Trp Phe Arg Ser Phe Arg Glu Ala Arg Leu
          115          120          125

Pro Arg Ile Gln Asp Ala Ala Gly Lys Leu Ile Lys Lys Gln Tyr Asp
          130          135          140

```

Leu
145

<210> 339

<211> 88

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 27802 right: 28065 frame: 2 size(aa): 88

<400> 339

```

Arg Ser Arg Gly Ala Gln Glu Ala Pro Val Arg Gly Pro Gly Arg Pro
1          5          10          15

Ala Ala Pro His Arg Arg Pro Gly Pro Gly Arg Pro Trp Glu Arg Arg
          20          25          30

Ser Glu Pro Arg Arg His Arg Pro Val Pro Leu Leu Leu Val Arg Gln
          35          40          45

Gln Glu Pro Ala Leu Glu Arg Gly Gly Pro Gly Gly Arg Gln His Pro
          50          55          60

Ala Ile Arg Arg Arg Gly Pro Ala Pro Gly Gly Arg Arg Arg Gly Ala
65          70          75          80

```

Pro Asp Gln Gln Ser Ala Leu Arg
85

<210> 340

<211> 103

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 27861 right: 28169 frame: -1 size(aa): 103

<400> 340

Ala Cys Arg Arg Arg Pro Gly Ser Trp Ala Thr Gly Pro His Gly Arg
1 5 10 15

Thr Gly Thr Arg Trp Arg Ala Ser Thr Arg Leu Gly Leu Arg Gln Arg
20 25 30

Arg Leu Gln Arg Arg Ala Asp Cys Trp Ser Gly Ala Pro Arg Arg Arg
35 40 45

Pro Pro Gly Ala Gly Pro Arg Arg Arg Ile Ala Gly Cys Trp Arg Pro
50 55 60

Pro Gly Pro Pro Arg Ser Arg Ala Gly Ser Cys Trp Arg Thr Arg Arg
65 70 75 80

Ser Gly Thr Gly Arg Cys Arg Arg Gly Ser Leu Arg Arg Ser Gln Gly
85 90 95

Arg Pro Gly Pro Gly Arg Arg
100

<210> 341

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 28047 right: 28325 frame: 1 size(aa): 93

<400> 341

Pro Thr Val Cys Pro Thr Leu Lys Pro Ser Leu Ser Lys Ala Glu Ser
1 5 10 15

Cys Arg Ser Pro Pro Pro Gly Ser Gly Pro Ser Val Arg Pro Gly Cys
20 25 30

Pro Gly Ser Arg Thr Pro Pro Ala Ser Ser Ser Arg Ser Ser Thr Thr
35 40 45

Cys Asp Val Leu Arg Pro His Pro Arg His Pro Arg Gly Arg Arg Arg
50 55 60

Arg Arg Ser Gly Pro Gly Val Ser Arg Leu Arg Gln His Leu Arg Asp

```

65              70              75              80
Ala Pro Glu Pro Ala Leu Arg Pro Val His Arg Gln Leu
      85              90

<210> 342
<211> 65
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28063 right: 28257 frame: -2 size(aa): 65

<400> 342

His Arg Val His Cys Gly Gly Asp Val Ala Leu Glu Asp Gly Ala Asp
1              5              10              15
Gly Gly Glu Gly His His Arg Ser Tyr Cys Phe Leu Met Ser Leu Pro
      20              25              30
Ala Ala Ser Trp Ile Leu Gly Asn Arg Ala Ser Arg Lys Asp Arg Asn
      35              40              45
Gln Val Ala Gly Phe Asp Thr Thr Arg Pro Ser Thr Ala Thr Ala Ser
      50              55              60

Ala
65

<210> 343
<211> 161
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28132 right: 28614 frame: 2 size(aa): 161

<400> 343

Gly Pro Val Ala Gln Asp Pro Gly Arg Arg Arg Gln Ala His Gln Glu
1              5              10              15
Ala Val Arg Pro Val Met Ser Phe Ala Pro Ile Arg Ala Ile Leu Glu
      20              25              30
Gly Asp Val Ala Ala Ala Val Asp Pro Val Ser Val Val Phe Asp Asn
      35              40              45
Thr Phe Glu Thr Pro Pro Ser Leu Pro Tyr Val Arg Phe Thr Val Ser
      50              55              60
Phe Asp Ala Pro Thr Ser Asp Ala Ile Gly Gly Gly Met Ala Ser His
65              70              75              80
Val Thr Gly Val Val Gln Ala Asn Val Tyr Val Ala Lys Met Thr Gly
      85              90              95

```

Ser Leu Gly Gly Glu Leu Leu Ala Ala Lys Ile Leu Asp Ala Trp Gln
 100 105 110

Asp Leu Ala Ala Ala Ala Val Val Pro Pro Gly Trp Arg Val Val Pro
 115 120 125

Arg Ser Leu Glu Gly Pro Gln Thr Leu Ala Pro Asp Lys Arg Glu Ala
 130 135 140

His Val Val Val Val Gly Ala Ala Phe Ser Ala Thr Leu Tyr Glu Thr
 145 150 155 160

Pro

<210> 344
 <211> 59
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 28196 right: 28372 frame: 3 size(aa): 59

<400> 344

Cys Pro Ser Pro Pro Ser Ala Pro Ser Ser Arg Ala Thr Ser Pro Pro
 1 5 10 15

Gln Trp Thr Arg Cys Gln Ser Ser Ser Thr Thr Pro Ser Arg Arg Pro
 20 25 30

Arg Ala Cys Pro Thr Ser Gly Ser Pro Ser Ala Leu Thr Pro Arg Arg
 35 40 45

Arg Thr Pro Ser Ala Ala Ala Trp Pro Pro Thr
 50 55

<210> 345
 <211> 123
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 28261 right: 28629 frame: -2 size(aa): 123

<400> 345

Arg Arg Pro Arg Leu Gly Arg Leu Val Glu Arg Arg Arg Glu Gly Gly
 1 5 10 15

Pro Asp Asp His Asp Val Gly Leu Pro Leu Ile Arg Gly Gln Gly Leu
 20 25 30

Arg Pro Leu Gln Gly Thr Gly His Asp Ala Pro Pro Gly Gly His Asp
 35 40 45

Gly Cys Ser Gly Gln Val Leu Pro Gly Val Gln Asp Leu Gly Arg Gln
50 55 60

Glu Leu Pro Ala Gln Ala Ala Cys His Leu Gly His Val Asp Val Gly
65 70 75 80

Leu His His Pro Gly His Val Gly Gly His Ala Ala Ala Asp Gly Val
85 90 95

Arg Arg Arg Gly Val Lys Ala Asp Gly Glu Pro Asp Val Gly Gln Ala
100 105 110

Arg Gly Arg Leu Glu Gly Val Val Glu Asp Asp
115 120

<210> 346

<211> 155

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 28322 right: 28786 frame: -3 size(aa): 155

<400> 346

Ser Trp Ser Ala Gly Thr Val Ile Ser Val Pro Ala Gly Lys Ser Val
1 5 10 15

Leu Ser Ser Arg Gln Cys Arg Val Ala Ala Gly Met Asn Ala Ala Asp
20 25 30

Pro Ser Ile Pro Asp Arg Arg Val Phe Glu Gln Val Thr Gly Ile Trp
35 40 45

Gly Leu Gly Val Thr Ser Ser Gln Ile Arg Ala Ser Arg Arg Ala Ser
50 55 60

Pro Arg Arg Arg Pro Arg Arg Pro Arg Arg Gly Pro Pro Ala Tyr Pro
65 70 75 80

Gly Pro Gly Ser Ala Ala Pro Pro Gly Asn Gly Ala Arg Arg Ala Thr
85 90 95

Arg Gly Ala Arg Arg Leu Gln Arg Pro Gly Pro Ala Arg Arg Pro Gly
100 105 110

Ser Trp Pro Pro Gly Ala Pro Arg Pro Gly Cys Leu Ser Ser Trp Pro
115 120 125

Arg Arg Arg Trp Pro Ala Pro Pro Arg Ser Arg Gly Arg Pro Cys Arg
130 135 140

Arg Arg Trp Arg Pro Thr Ser Gly Arg Gln Ser
145 150 155

<210> 347

<211> 74

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 28329 right: 28550 frame: 1 size(aa): 74

<400> 347

Arg Pro Asp Val Gly Arg His Arg Arg Arg His Gly Leu Pro Arg Asp
1 5 10 15

Arg Gly Gly Ala Gly Gln Arg Leu Arg Gly Gln Asp Asp Arg Gln Pro
20 25 30

Gly Arg Gly Ala Pro Gly Gly Gln Asp Pro Gly Arg Leu Ala Gly Pro
35 40 45

Gly Arg Cys Ser Arg Arg Ala Pro Arg Val Ala Arg Arg Ala Pro Phe
50 55 60

Pro Gly Gly Ala Ala Asp Pro Gly Pro Gly
65 70

<210> 348

<211> 67

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 28401 right: 28601 frame: -1 size(aa): 67

<400> 348

Ser Val Ala Glu Lys Ala Ala Pro Thr Thr Thr Thr Trp Ala Ser Arg
1 5 10 15

Leu Ser Gly Ala Arg Val Cys Gly Pro Ser Arg Glu Arg Gly Thr Thr
20 25 30

Arg His Pro Gly Gly Thr Thr Ala Ala Ala Ala Arg Ser Cys Gln Ala
35 40 45

Ser Arg Ile Leu Ala Ala Arg Ser Ser Pro Pro Arg Leu Pro Val Ile
50 55 60

Leu Ala Thr
65

<210> 349

<211> 74

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 28415 right: 28636 frame: 3 size(aa): 74

<400> 349

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.  Gln Ala Ala Trp Ala Gly Ser Ser Trp Arg Pro Arg Ser Trp Thr Pro
.  1          5          10          15

.  Gly Arg Thr Trp Pro Leu Gln Pro Ser Cys Pro Pro Gly Gly Ala Ser
.  20          25          30

.  Cys Pro Val Pro Trp Arg Gly Arg Arg Pro Trp Pro Arg Ile Ser Gly
.  35          40          45

.  Arg Pro Thr Ser Trp Ser Ser Gly Pro Pro Ser Arg Arg Arg Ser Thr
.  50          55          60

Arg Arg Pro Asn Leu Gly Arg Arg His Pro
65          70

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<210> 350

<211> 298

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 28554 right: 29447 frame: 1 size(aa): 298

<400> 350

```

Ala Gly Gly Pro Arg Arg Gly Arg Arg Gly Arg Leu Leu Gly Asp Ala
1          5          10          15

Leu Arg Asp Ala Leu Ile Trp Asp Asp Val Thr Pro Arg Pro Gln Met
20          25          30

Pro Val Thr Cys Ser Lys Thr Leu Leu Ser Gly Ile Asp Gly Ser Ala
35          40          45

Ala Phe Ile Pro Ala Ala Thr Arg His Cys Leu Leu Asp Asn Thr Asp
50          55          60

Phe Pro Ala Gly Thr Glu Ile Thr Val Pro Ala Asp His Asp Tyr Leu
65          70          75          80

Val Gly Asp Pro Val Thr Phe Glu Ala Gln Gly Thr Ala Val Leu Asp
85          90          95

Thr Ala Leu Thr Glu Gly Thr Thr Tyr Tyr Val Val Thr Glu Ala His
100         105         110

Gly Ala Ser Pro His Ile Glu Val Ser Ala Thr Ala Gly Gly Ala Pro
115         120         125

Ile Thr Leu Asn Gly Asp Gly Gly Thr Gly Thr Ala Asn Ser Gly Ala
130         135         140

Pro Ala Gln Asn His Ile Lys Ile Gln Phe Ala Ala His Met Ala Leu
145         150         155         160

Cys Gln Val Gln Gly Trp Asn Cys Asn Leu Ser Arg Glu Glu Val Met
165         170         175

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Thr Thr Ser Leu Gln Cys Gly Pro Thr Thr Asp Asn Gly Ala Asn Ala
180 185 190

Pro Phe Met Thr Arg Gln Ala Gly Tyr Val Asp Gly Ser Gly Ser Met
195 200 205

Val Val Arg Phe Thr Arg Asp Gln Glu Ser Leu Ser Arg Arg Leu Leu
210 215 220

Arg Asn Ser Leu Arg Lys Asn Gln Asp Gly Ala Ser Val Gln Leu Phe
225 230 235 240

Val Asp Thr Val Tyr Gly Pro Ser Gly Thr Ile Asp Leu Ala Gly Ser
245 250 255

Glu Phe Ile Glu Gly Pro Val Ser Ile Leu Gly Phe Ala Leu Gly Val
260 265 270

Thr Thr Gly Ser Glu Pro Thr Gln Gly Thr Val Asn Phe Ser Phe Ser
275 280 285

Asp Gln Pro Thr Asn Ile Phe Gly Ala Leu
290 295

<210> 351

<211> 377

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 28617 right: 29747 frame: -1 size(aa): 377

<400> 351

Ser Ala Leu Thr Arg Ser Ala Thr Tyr Ser Ala Leu Thr Asp Arg Arg
1 5 10 15

Ser Trp Ala Arg Ser Pro Gly Ala Asn Arg Gly Trp Pro Leu Ala Ser
20 25 30

Phe Ala Leu Arg Ile Ser Arg Pro Arg Leu Thr Ser Ser Cys Ser Ser
35 40 45

Leu Leu Ala Phe Ser Ala Ala Trp Arg Arg Ser Ala Arg Val Thr Gly
50 55 60

Val Val Tyr Ile Ser Ser Val Ala Pro Asp Arg Lys Val Ile Arg Cys
65 70 75 80

Arg Leu Ser Val Trp Arg Leu Asp Ser Ala Leu Ser Arg Ser Ile Ala
85 90 95

Arg Met Ser Ser Glu Gly Ser Glu Asp Val Gly Gly Leu Val Ala Glu
100 105 110

Thr Glu Val Asp Gly Ala Leu Gly Gly Leu Arg Pro Gly Gly Tyr Ala
115 120 125

Gln Gly Glu Ala Gln Asp Arg His Arg Ala Leu Asp Glu Leu Gly Ala

130 135 140

Gly Gln Val Asp Gly Ala Ala Gly Ala Val Asp Arg Val Asp Glu Gln
145 150 155 160

Leu His Arg Gly Ala Val Leu Val Leu Pro Glu Ala Val Ala Glu Glu
165 170 175

Ala Ala Arg Gln Arg Leu Leu Val Pro Gly Glu Ala Asp His His Arg
180 185 190

Ala Gly Ala Val Asp Val Ala Gly Leu Ala Gly His Glu Arg Gly Ile
195 200 205

Gly Ala Val Val Gly Arg Arg Pro Ala Leu Gln Ala Arg Gly His Asp
210 215 220

Leu Leu Pro Ala Glu Val Ala Val Pro Ala Leu Asp Leu Ala Glu Gly
225 230 235 240

His Val Gly Ser Glu Leu Asp Leu Asp Val Val Leu Gly Arg Gly Pro
245 250 255

Gly Val Gly Gly Thr Gly Ala Ala Val Thr Val Gln Gly Asp Arg Gly
260 265 270

Ala Pro Cys Gly Gly Gly His Leu Asp Val Gly Ala Gly Ala Val Gly
275 280 285

Leu Gly Asp His Val Val Gly Gly Ala Leu Gly Gln Gly Gly Ile Gln
290 295 300

Asp Gly Gly Ala Leu Gly Leu Glu Arg Asp Gly Ile Thr His Gln Val
305 310 315 320

Val Val Val Gly Arg Asp Arg Asp Leu Gly Thr Ser Arg Glu Ile Gly
325 330 335

Val Val Glu Gln Ala Val Pro Gly Ser Gly Gly Asp Glu Arg Gly Arg
340 345 350

Pro Val Asp Pro Arg Gln Glu Gly Phe Arg Ala Gly Asp Gly His Leu
355 360 365

Gly Pro Arg Gly Asp Val Val Pro Asp
370 375

<210> 352

<211> 77

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 28618 right: 28848 frame: 2 size(aa): 77

<400> 352

Ser Gly Thr Thr Ser Pro Leu Gly Pro Arg Cys Pro Ser Pro Ala Arg
1 5 10 15

Lys Pro Ser Cys Arg Gly Ser Thr Gly Arg Pro Arg Ser Ser Pro Pro
20 25 30
Leu Pro Gly Thr Ala Cys Ser Thr Thr Pro Ile Ser Arg Leu Val Pro
35 40 45
Arg Ser Arg Ser Arg Pro Thr Thr Thr Thr Trp Trp Val Ile Pro Ser
50 55 60
Arg Ser Arg Pro Arg Ala Pro Pro Ser Trp Ile Pro Pro
65 70 75

<210> 353

<211> 53

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 28640 right: 28798 frame: 3 size(aa): 53

<400> 353

Ala Pro Asp Ala Arg His Leu Leu Glu Asn Pro Pro Val Gly Asp Arg
1 5 10 15
Arg Val Gly Arg Val His Pro Arg Arg Tyr Pro Ala Leu Pro Ala Arg
20 25 30
Gln His Arg Phe Pro Gly Trp Tyr Arg Asp His Gly Pro Gly Arg Pro
35 40 45
Arg Leu Pro Gly Gly
50

<210> 354

<211> 50

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 28802 right: 28951 frame: 3 size(aa): 50

<400> 354

Ser Arg His Val Arg Gly Pro Gly His Arg Arg Pro Gly Tyr Arg Pro
1 5 10 15
Asp Arg Gly His His Leu Leu Arg Gly His Arg Gly Pro Arg Arg Gln
20 25 30
Pro Pro His Arg Gly Val Arg His Arg Arg Gly Arg Pro Asp His Pro
35 40 45
Glu Arg
50

<210> 355
<211> 94
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28871 right: 29152 frame: -3 size(aa): 94

<400> 355

Pro Ala Trp Arg Val Met Asn Gly Ala Leu Ala Pro Leu Ser Val Val
1 5 10 15
Gly Pro His Cys Arg Leu Val Val Met Thr Ser Ser Arg Leu Arg Leu
20 25 30
Gln Phe Gln Pro Trp Thr Trp Gln Arg Ala Met Trp Ala Ala Asn Trp
35 40 45
Ile Leu Met Trp Phe Trp Ala Gly Ala Pro Glu Leu Ala Val Pro Val
50 55 60
Pro Pro Ser Pro Phe Arg Val Ile Gly Ala Pro Pro Ala Val Ala Asp
65 70 75 80
Thr Ser Met Trp Gly Leu Ala Pro Trp Ala Ser Val Thr Thr
85 90

<210> 356
<211> 186
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28955 right: 29512 frame: 3 size(aa): 186

<400> 356

Arg Arg His Arg Tyr Arg Gln Leu Arg Gly Pro Gly Pro Glu Pro His
1 5 10 15
Gln Asp Pro Val Arg Cys Pro His Gly Pro Leu Pro Gly Pro Gly Leu
20 25 30
Glu Leu Gln Pro Gln Pro Gly Gly Gly His Asp His Glu Pro Ala Val
35 40 45
Arg Ala Asp Asp Arg Gln Arg Arg Gln Cys Pro Val His Asp Pro Pro
50 55 60
Gly Arg Leu Arg Arg Arg Leu Arg Leu Asp Gly Gly Pro Leu His Pro
65 70 75 80
Gly Pro Gly Val Ala Val Ser Pro Pro Pro Pro Gln Gln Pro Pro Glu
85 90 95
Glu Pro Gly Arg Arg Leu Gly Ala Ala Val Arg Arg His Gly Leu Arg

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          100              105              110
Pro  Gln Arg  His  His Arg  Pro  Gly Arg  Leu Arg Val  His Arg Gly  Pro
      115              120              125
Gly  Val Asp  Pro  Gly  Leu Arg  Pro  Gly Arg  Asn His Arg Val  Gly Ala
      130              135              140
His  Pro Gly  His  Arg  Gln  Leu Gln Phe  Gln Arg  Pro Ala His  Gln His
      145              150              155
Leu Arg Ser  Pro  Leu Thr  Thr Cys Glu  Arg Ser  Thr Cys Ser  Arg Gln
      165              170              175
Asn Pro Thr  Ser  Arg  Arg  Ser  Ser  Gly Thr
      180              185

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<210> 357
<211> 76
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29140 right: 29367 frame: 2 size(aa): 76

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<400> 357

Pro  Ala Arg  Pro  Ala Thr  Ser  Thr Ala  Pro  Ala Arg  Trp Trp Ser  Ala
1              5              10              15
Ser  Pro Gly  Thr  Arg  Ser  Arg Cys  Leu Ala Ala  Ser  Ser  Ala Thr  Ala
      20              25              30
Ser  Gly Arg  Thr  Arg  Thr  Ala  Pro Arg  Cys  Ser  Cys  Ser  Ser  Thr Arg
      35              40              45
Ser  Thr Ala  Pro  Ala Ala  Pro  Ser  Thr  Trp  Pro  Ala  Pro  Ser  Ser  Ser
      50              55              60
Arg  Ala Arg  Cys  Arg  Ser  Trp  Ala  Ser  Pro  Trp  Ala
65              70              75

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<210> 358
<211> 62
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29288 right: 29473 frame: -3 size(aa): 62

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<400> 358

Ala  Gly Arg  Ser  Leu Ala  Cys Arg  Gln Arg  Ala  Pro  Lys Met  Leu Val
1              5              10              15
Gly  Trp Ser  Leu  Lys  Leu  Lys  Leu Thr  Val  Pro  Trp  Val  Gly  Ser Asp
      20              25              30

```

Pro Val Val Thr Pro Arg Ala Lys Pro Arg Ile Asp Thr Gly Pro Ser
35 40 45

Met Asn Ser Glu Pro Ala Arg Ser Met Val Pro Leu Gly Pro
50 55 60

<210> 359

<211> 156

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 29371 right: 29838 frame: 2 size(aa): 156

<400> 359

Pro Pro Gly Arg Ser Pro Pro Arg Ala Pro Ser Thr Ser Val Ser Ala
1 5 10 15

Thr Ser Pro Pro Thr Ser Ser Glu Pro Ser Asp Asp Met Arg Ala Ile
20 25 30

Asp Leu Leu Lys Ala Glu Ser Asn Leu Gln Thr Leu Lys Arg His Leu
35 40 45

Ile Thr Phe Arg Ser Gly Ala Thr Leu Glu Met Tyr Thr Thr Pro Val
50 55 60

Thr Leu Ala Glu Arg Arg Gln Ala Ala Glu Asn Ala Lys Ser Asp Glu
65 70 75 80

Gln Leu Glu Val Asn Leu Gly Leu Leu Ile Leu Lys Ala Lys Asp Ala
85 90 95

Asn Gly Gln Pro Leu Phe Ala Pro Gly Asp Leu Ala Gln Leu Arg Arg
100 105 110

Ser Val Ser Ala Glu Tyr Val Ala Asp Leu Val Asn Ala Leu Tyr Ser
115 120 125

Thr Pro Ala Leu Asp Glu Gly Glu Ala Ser Asp Pro Lys Pro Ser Ser
130 135 140

Pro Ser Ser Gly Lys Thr Asn Ser Ser Ser Ser Asn
145 150 155

<210> 360

<211> 178

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 29416 right: 29949 frame: -2 size(aa): 178

<400> 360

Gly Ala Pro Pro Pro Gly Ser Gly Pro Gly Pro Ala Arg Gly Arg Ala
 1 5 10 15
 Arg Pro Arg Ser Cys Pro Ala Ala Ser Gly Pro Arg Ser Ser Arg Ala
 20 25 30
 Arg Arg Pro Gly Ser Val Arg Thr Gly Ala Val Cys Leu Ala Gly Thr
 35 40 45
 Gly Arg Gly Gly Leu Trp Val Gly Gly Leu Ala Leu Val Gln Gly Arg
 50 55 60
 Arg Arg Val Glu Arg Val Asp Gln Val Gly His Val Leu Gly Ala Asp
 65 70 75 80
 Gly Pro Ala Gln Leu Gly Gln Val Ala Gly Gly Glu Gln Gly Leu Ala
 85 90 95
 Val Gly Val Leu Arg Leu Glu Asp Gln Gln Ala Glu Val Asp Leu Gln
 100 105 110
 Leu Leu Val Ala Leu Gly Val Leu Gly Gly Leu Ala Thr Leu Gly Gln
 115 120 125
 Gly Asp Arg Gly Gly Val His Leu Glu Arg Gly Thr Gly Pro Glu Gly
 130 135 140
 Asp Gln Val Pro Leu Glu Arg Leu Glu Val Gly Phe Cys Leu Glu Gln
 145 150 155 160
 Val Asp Arg Ser His Val Val Arg Gly Leu Arg Arg Cys Trp Trp Ala
 165 170 175

Gly Arg

<210> 361
 <211> 171
 <212> PRT
 <213> Cyanophage S-2L

 <220>
 <221> misc_feature
 <223> New ORF = left: 29451 right: 29963 frame: 1 size(aa): 171

<400> 361

Arg His Ala Ser Asp Arg Pro Ala Gln Gly Arg Ile Gln Pro Pro Asp
 1 5 10 15
 Ala Gln Ala Ala Pro Asp His Leu Pro Val Arg Cys His Ala Arg Asp
 20 25 30
 Val His His Pro Gly His Pro Gly Arg Ala Ser Pro Gly Arg Arg Glu
 35 40 45
 Arg Gln Glu Arg Arg Ala Ala Gly Gly Gln Pro Arg Pro Ala Asp Pro
 50 55 60
 Gln Gly Glu Gly Arg Gln Arg Pro Ala Pro Val Arg Pro Arg Arg Pro

65 70 75 80
Gly Pro Ala Ala Pro Val Arg Gln Arg Arg Val Arg Gly Arg Pro Gly
 85 90 95
Gln Arg Ala Leu Leu Asp Ala Cys Pro Gly Arg Gly Arg Gly Leu Arg
 100 105 110
Pro Lys Ala Leu Leu Ala Gln Phe Arg Gln Asp Lys Gln Leu Gln Phe
 115 120 125
Glu Leu Ser Leu Ala Ser Glu Leu Gly Met Thr Trp Gly Gln Met Gln
 130 135 140
Gln Asp Met Thr Glu Ala Glu Leu Ala Leu Trp Gln Val Arg Ala Arg
145 150 155 160
Tyr Leu Glu Glu Glu Arg Leu Arg Ser Pro Val
 165 170

<210> 362

<211> 116

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 29639 right: 29986 frame: 3 size(aa): 116

<400> 362

Ser Ser Arg Arg Arg Thr Pro Thr Ala Ser Pro Cys Ser Pro Pro Ala
1 5 10 15
Thr Trp Pro Ser Cys Ala Gly Pro Ser Ala Pro Ser Thr Trp Pro Thr
 20 25 30
Trp Ser Thr Arg Ser Thr Arg Arg Leu Pro Trp Thr Arg Ala Arg Pro
 35 40 45
Pro Thr Gln Ser Pro Pro Arg Pro Val Pro Ala Arg Gln Thr Ala Pro
 50 55 60
Val Arg Thr Glu Pro Gly Leu Arg Ala Arg Asp Asp Leu Gly Pro Asp
65 70 75 80
Ala Ala Gly His Asp Arg Gly Arg Ala Arg Pro Leu Ala Gly Pro Gly
 85 90 95
Pro Leu Pro Gly Gly Gly Ala Pro Gln Val Ser Gly Leu Thr Trp Ala
 100 105 110
Gly Gly Cys Glu
 115

<210> 363

<211> 63

<212> PRT

<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29741 right: 29929 frame: -3 size(aa): 63

<400> 363

Arg Ala Arg Thr Cys Gln Arg Ala Ser Ser Ala Ser Val Met Ser Cys
1 5 10 15

Cys Ile Trp Pro Gln Val Ile Pro Ser Ser Glu Ala Arg Leu Ser Ser
20 25 30

Asn Trp Ser Cys Leu Ser Cys Arg Asn Trp Ala Arg Arg Ala Leu Gly
35 40 45

Arg Arg Pro Arg Pro Arg Pro Gly Gln Ala Ser Ser Arg Ala Arg
50 55 60

<210> 364
<211> 82
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29751 right: 29996 frame: -1 size(aa): 82

<400> 364

Ser Lys Ser Ile Arg Ser Arg Leu Pro Arg Ser Asp Arg Arg Pro Glu
1 5 10 15

Ala Leu Leu Leu Gln Val Ala Gly Pro Asp Leu Pro Glu Gly Glu Leu
20 25 30

Gly Leu Gly His Val Leu Leu His Leu Ala Pro Gly His Pro Glu Leu
35 40 45

Gly Gly Gln Ala Gln Phe Glu Leu Glu Leu Phe Val Leu Pro Glu Leu
50 55 60

Gly Glu Glu Gly Phe Gly Ser Glu Ala Ser Pro Ser Ser Arg Ala Gly
65 70 75 80

Val Glu

<210> 365
<211> 61
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29893 right: 30075 frame: 2 size(aa): 61

<400> 365

Pro Arg Pro Ser Ser Pro Ser Gly Arg Ser Gly Pro Ala Thr Trp Arg
1 5 10 15
Arg Ser Ala Ser Gly Leu Arg Ser Asp Leu Gly Arg Arg Leu Arg Ile
20 25 30
Asp Phe Asp Gln Arg Leu Gly Gly Cys Leu Asp Lys His Pro Thr Gly
35 40 45
Arg Glu Asp Gln His Arg Arg His Gln Phe Thr Arg Gly
50 55 60

<210> 366

<211> 133

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 29953 right: 30351 frame: -2 size(aa): 133

<400> 366

Pro Trp Pro Arg Arg Trp Arg Pro His Pro Gly Arg Arg Met Pro Gly
1 5 10 15
Gly Pro Pro Arg Ala Cys Arg Ser Cys Arg Trp Arg Pro Gly Arg Cys
20 25 30
Cys Pro Leu Ala Arg Thr His Arg Gly Pro Arg Arg Ser Arg Arg Pro
35 40 45
Val Pro Gly Pro Gly Ala Ala Ala Pro Ser Gly Gln Ala Ala Cys Pro
50 55 60
Pro Gly Gly Cys Gln Arg Arg Asp Arg Pro Gly Arg Arg Cys Ser Cys
65 70 75 80
Arg Gln Leu Ser Tyr Gly Ala Gly Met Arg Thr Leu Thr Ala Cys Glu
85 90 95
Leu Val Ala Thr Val Leu Ile Leu Thr Ala Cys Gly Val Leu Val Lys
100 105 110
Thr Thr Ala Gln Pro Leu Ile Glu Val Tyr Ser Gln Pro Pro Ala Gln
115 120 125
Val Arg Pro Glu Thr
130

<210> 367

<211> 293

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 30087 right: 30965 frame: -1 size(aa): 293

<400> 367

Gly Leu Glu Arg Pro Glu Asp Arg Trp His Asp Ala Arg Pro His Asp
 1 5 10 15
 Arg Pro His Val Asp Glu Pro Val Phe Gln Leu Leu Asp Val Gly Ala
 20 25 30
 Gly Arg Val Gln Arg Gly Val Gln Leu Val Gly Pro Leu Gly Ala Asp
 35 40 45
 Val Leu Gln Gly Leu Glu Asp Asp Val Pro Gly Glu Leu Ala Leu Gly
 50 55 60
 Arg His Leu Ala Gln Leu Pro Gly Val Asp Ala His Asp Pro Gly His
 65 70 75 80
 Leu Asp Ala Asp Gly Arg Arg Leu Leu His Asp Arg Val Glu Leu Val
 85 90 95
 Ala Pro Glu Arg Pro Gly Ala Gln Gly Leu Gly Gln Leu Pro Glu Gly
 100 105 110
 Ala Leu Ala Leu Leu Gly Arg Arg Ala Ala Val Pro Gly Arg Arg Val
 115 120 125
 Glu Ala Leu Val Asp Val Pro His Leu Gly Gln Gly Glu Ala Gln Gly
 130 135 140
 Ala Glu Ser Gly Val Gly Leu Arg Glu Ala Gly Leu Gly Arg Leu Leu
 145 150 155 160
 Arg Glu Ala Glu Leu Gly Cys Gly Leu Leu Gly His Leu Leu Glu Pro
 165 170 175
 Gly Val Val Val Gln Ala Gly Ser Glu Pro Pro Asp Pro His Leu Gly
 180 185 190
 Val Leu Gly Leu His Pro His Leu Gln Asp Arg Val Ser His Gly Pro
 195 200 205
 Gly Gly Gly Asp His Thr Gln Gly Gly Glu Cys Pro Glu Ala Pro His
 210 215 220
 Glu His Val Asp Leu Ala Gly Gly Gly Leu Gly Ala Val Ala His Trp
 225 230 235 240
 Pro Glu His Ile Ala Ala Pro Gly Gly Pro Ala Gly Pro Phe Gln Ala
 245 250 255
 Pro Glu Pro Leu Leu His Pro Gly Lys Leu Arg Val Arg Leu Ala Gly
 260 265 270
 Ala Lys Asp Glu Ile Asp Leu Val Gly Gly Ala His Ala Gly Ser Leu
 275 280 285
 Ala Thr Val Arg Ala
 290

<210> 368

<211> 84

<212> PRT
<213> Cyanophage S-2L
<220>
<221> misc_feature
<223> New ORF = left: 30101 right: 30352 frame: 3 size(aa): 84

<400> 368

Leu Ser Cys Arg His Glu His Arg Leu Pro Gly Arg Ser Arg Leu Trp
1 5 10 15
His Pro Pro Gly Gly His Ala Ala Cys Pro Asp Gly Ala Ala Ala Pro
20 25 30
Gly Pro Gly Thr Gly Arg Arg Asp Arg Arg Gly Pro Arg Cys Val Arg
35 40 45
Ala Asn Gly Gln Gln Arg Pro Gly Arg His Arg Gln Asp Arg His Ala
50 55 60
Arg Gly Gly Pro Pro Gly Ile Arg Arg Pro Gly Cys Gly Arg His Arg
65 70 75 80
Arg Gly His Gly

<210> 369
<211> 860
<212> PRT
<213> Cyanophage S-2L
<220>
<221> misc_feature
<223> New ORF = left: 30105 right: 32684 frame: 1 size(aa): 860

<400> 369

Ala Ala Gly Met Ser Thr Ala Tyr Gln Val Asp Leu Val Phe Gly Thr
1 5 10 15
Arg Gln Ala Asp Thr Gln Leu Ala Arg Met Glu Gln Arg Leu Arg Gly
20 25 30
Leu Glu Arg Ala Gly Gly Thr Ala Gly Gly Arg Asp Val Phe Gly Pro
35 40 45
Met Gly Asn Ser Ala Gln Ala Ala Thr Gly Lys Ile Asp Met Leu Val
50 55 60
Gly Gly Leu Arg Ala Phe Ala Ala Leu Gly Val Val Ala Thr Ala Gly
65 70 75 80
Ala Met Ala Asn Ser Ile Leu Gln Met Gly Met Gln Ala Glu Asn Thr
85 90 95
Glu Val Arg Val Arg Gly Leu Thr Ala Gly Leu Asp Asp Tyr Ala Arg
100 105 110

Phe Gln Glu Val Ala Gln Glu Ala Ala Ala Lys Phe Gly Leu Ser Gln
 115 120 125
 Gln Ala Ala Gln Ala Gly Leu Ala Gln Thr Tyr Ala Arg Leu Arg Pro
 130 135 140
 Leu Gly Phe Thr Leu Ser Glu Val Arg Asp Val Tyr Glu Gly Phe Asn
 145 150 155 160
 Thr Ala Ala Arg Asn Gly Gly Ser Thr Ala Gln Glu Ser Glu Gly Ala
 165 170 175
 Phe Arg Gln Leu Ala Gln Ala Leu Gly Ser Gly Ala Leu Arg Gly Asp
 180 185 190
 Glu Phe Asn Ser Ile Met Glu Gln Thr Pro Ala Ile Gly Ile Glu Val
 195 200 205
 Ala Arg Val Met Gly Ile Asn Ala Gly Gln Leu Arg Glu Met Ala Ala
 210 215 220
 Glu Gly Lys Leu Thr Gly Asp Ile Val Leu Lys Ala Leu Gln Asn Ile
 225 230 235 240
 Arg Thr Glu Gly Ala Asp Lys Leu Asp Ala Ser Leu Asn Thr Thr Ser
 245 250 255
 Ala Asn Val Glu Lys Leu Lys Asn Arg Phe Ile Asp Met Gly Thr Val
 260 265 270
 Val Gly Ser Gly Val Met Pro Pro Ile Leu Arg Thr Leu Gln Ala Leu
 275 280 285
 Asn Leu Leu Leu Asp Gln Ala Thr Lys Asn Ala Asp Gly Leu Gly Phe
 290 295 300
 Ala Leu Gln Gln Ala Met Gly Ile Ala Gly Gly Leu Pro Val Asn Leu
 305 310 315 320
 Gly Ile Gly Ile Gly Asn Val Ala Gly Arg Ile Pro Gly Gly Arg Gln
 325 330 335
 Ala Ile Gln Gly Ile Gly Ser Met Leu Gly Tyr Gln Pro Glu Lys Gln
 340 345 350
 Thr Phe Gly Pro Phe Met Pro Glu Gly Leu Glu Gln Arg Ser Arg Ala
 355 360 365
 Gln Glu Gln Ala Arg Ile Arg Arg Glu Lys Glu Ala Lys Asp Ala Ala
 370 375 380
 Thr Lys Ser Arg Ser Arg Gly Gly Gly Ser Ser Gly Pro Asp Phe Pro
 385 390 395 400
 Ala Tyr Ile Thr Ala Asn Gln Met Arg Asp Trp Leu Arg Ser Gln Gly
 405 410 415
 Tyr Glu Arg Thr Ser Gly Asp Phe Thr Asn Lys Gly His Arg Thr Pro
 420 425 430
 Asn His Met Leu Asn Ala Ile Asp Ile Gly Glu Leu Asp Gly Ser Tyr

435					440					445					
Ala	Phe	Ala	Val	Gln	Arg	Ala	Lys	Ala	Leu	Glu	Ala	Arg	Leu	Arg	Ala
450						455					460				
Thr	Gly	Ala	Phe	Gly	Asn	Gln	Leu	Phe	Gly	Pro	Thr	Arg	Asp	Pro	Arg
465						470					475				480
Gly	His	Lys	Asp	His	Val	His	Ile	Pro	Thr	Pro	Gly	Gly	Arg	Ile	Arg
				485					490					495	
Val	Thr	Pro	Gly	Leu	Ala	Gln	Leu	Met	Gly	Leu	Asn	Gly	Lys	Gly	Ser
			500					505					510		
Gly	Gly	Met	Ala	Met	Gln	Gly	Ala	Glu	Trp	Ala	Asn	Glu	Ala	Ala	Glu
		515					520					525			
Lys	Glu	Ala	Glu	Arg	Gln	Gln	Lys	Arg	Glu	Asp	Gly	Leu	Arg	Thr	Ser
	530					535					540				
Gly	Arg	Ala	Leu	Ala	Leu	Ala	Gln	Ala	Glu	Leu	Lys	Ile	Ala	Gln	Ala
545						550					555				560
Ser	Thr	Asp	Glu	Gln	Arg	Ile	Gln	Ala	Thr	Ala	Asp	Lys	Asp	Arg	Met
				565					570					575	
Asp	Arg	Met	Tyr	Glu	Phe	Ala	Asp	Leu	Tyr	Arg	Asp	Ala	Val	Thr	Glu
		580						585					590		
Glu	Glu	Arg	Ala	Asn	Ile	Ala	Lys	Ala	Gln	Gly	Val	Glu	Ile	Gln	Arg
		595					600					605			
Gln	Gln	Val	Glu	Leu	Ala	Lys	Ser	Leu	Gly	Asp	Ala	Leu	Val	Glu	Val
		610					615					620			
Ala	Arg	Lys	Gln	Glu	Ala	Ala	Met	Arg	Pro	Arg	Leu	Asp	Asn	Ile	Glu
625						630					635				640
Arg	Leu	Glu	Ala	Thr	Leu	Arg	Gly	Pro	Asp	Ala	Val	Arg	Ala	Leu	Glu
				645					650					655	
Arg	Arg	Asn	Ala	Val	Gly	Glu	Met	Ser	Ala	Ala	Gly	Val	Gly	Pro	Ala
			660					665					670		
Arg	Ala	Gly	Glu	Leu	Tyr	Asp	Arg	Glu	Gln	Ala	Leu	Asp	Arg	Gln	Val
		675					680					685			
Glu	Arg	Gln	Arg	Glu	Leu	Asn	Ala	Leu	Trp	Glu	Glu	Gly	Gly	Arg	Thr
		690				695					700				
Leu	Gly	Gly	Leu	Phe	Ser	Asp	Leu	Val	Lys	Gly	Thr	Asp	Asp	Trp	Gln
705						710					715				720
Ala	Ser	Leu	Thr	Arg	Ala	Leu	Glu	Ser	Leu	Ala	Ser	Val	Leu	Leu	Gln
				725					730					735	
Ala	Gly	Leu	Arg	Gly	Ile	Ala	Glu	Asn	Asn	Gln	Gly	Gly	Phe	Leu	Gly
			740					745					750		
Gly	Leu	Leu	Ser	Gln	Val	Met	Gly	Ser	Phe	Asp	Gly	Gly	Gly	Tyr	Thr
		755					760						765		

Gly Ser Gly Ser Arg Thr Gly Gly Leu Asp Gly Lys Gly Gly Phe Ala
 770 775 780
 Ala Ile Leu His Pro Asn Glu Thr Val Val Asp His Thr Arg Gly Gln
 785 790 795 800
 Ala Ala Gly Gly Gly Met Val Asn Val Gly Gly Ile Thr Val Asn Val
 805 810 815
 Ala Ser Asp Gly Thr Thr Glu Val Asp Ala Ala Gly Gly Gly Glu Leu
 820 825 830
 Ala Arg Gly Val Gln Ala Ala Val Thr Ala Glu Ile Leu Arg Gln Met
 835 840 845
 Arg Pro Gly Gly Val Leu Ala Ala Gly Gln Arg Gly
 850 855 860

<210> 370

<211> 247

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 30118 right: 30858 frame: 2 size(aa): 247

<400> 370

Ala Pro Pro Thr Arg Ser Ile Ser Ser Leu Ala Pro Ala Arg Arg Thr
 1 5 10 15
 Arg Ser Leu Pro Gly Trp Ser Ser Gly Ser Gly Ala Trp Asn Gly Pro
 20 25 30
 Ala Gly Pro Pro Gly Ala Ala Met Cys Ser Gly Gln Trp Ala Thr Ala
 35 40 45
 Pro Arg Pro Pro Pro Ala Arg Ser Thr Cys Ser Trp Gly Ala Ser Gly
 50 55 60
 His Ser Pro Pro Trp Val Trp Ser Pro Pro Pro Gly Pro Trp Leu Thr
 65 70 75 80
 Arg Ser Cys Arg Trp Gly Cys Arg Pro Arg Thr Pro Arg Cys Gly Ser
 85 90 95
 Gly Gly Ser Leu Pro Ala Trp Thr Thr Thr Pro Gly Ser Arg Arg Trp
 100 105 110
 Pro Arg Arg Pro Gln Pro Ser Ser Ala Ser Arg Ser Arg Arg Pro Arg
 115 120 125
 Pro Ala Ser Arg Arg Pro Thr Pro Asp Ser Ala Pro Trp Ala Ser Pro
 130 135 140
 Cys Pro Arg Cys Gly Thr Ser Thr Arg Ala Ser Thr Arg Arg Pro Gly
 145 150 155 160

Thr Ala Ala Arg Arg Pro Arg Arg Ala Arg Ala Pro Ser Gly Ser Trp
165 170 175
Pro Arg Pro Trp Ala Pro Gly Arg Ser Gly Ala Thr Ser Ser Thr Arg
180 185 190
Ser Trp Ser Arg Arg Arg Pro Ser Ala Ser Arg Trp Pro Gly Ser Trp
195 200 205
Ala Ser Thr Pro Gly Ser Cys Ala Arg Trp Arg Pro Arg Ala Ser Ser
210 215 220
Pro Gly Thr Ser Ser Ser Arg Pro Cys Arg Thr Ser Ala Pro Arg Gly
225 230 235 240
Pro Thr Ser Trp Thr Pro Leu
245

<210> 371
<211> 101
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 30128 right: 30430 frame: -3 size(aa): 101

<400> 371

Ser Ser Arg Pro Ala Val Ser Pro Arg Thr Arg Thr Ser Val Phe Ser
1 5 10 15
Ala Cys Ile Pro Ile Cys Arg Ile Glu Leu Ala Met Ala Pro Ala Val
20 25 30
Ala Thr Thr Pro Arg Ala Ala Asn Ala Arg Arg Pro Pro Thr Ser Met
35 40 45
Ser Ile Leu Pro Val Ala Ala Trp Ala Leu Leu Pro Ile Gly Pro Asn
50 55 60
Thr Ser Arg Pro Pro Ala Val Pro Pro Ala Arg Ser Arg Pro Arg Ser
65 70 75 80
Arg Cys Ser Ile Arg Ala Ser Cys Val Ser Ala Trp Arg Val Pro Lys
85 90 95
Thr Arg Ser Thr Trp
100

<210> 372
<211> 352
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 30356 right: 31411 frame: 3 size(aa): 352

<400> 372

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Leu Asp Pro Ala Asp Gly Asp Ala Gly Arg Glu His Arg Gly Ala Gly
1      5      10      15
Pro Gly Ala His Cys Arg Pro Gly Arg Leu Arg Pro Val Pro Gly Gly
20      25      30
Gly Pro Gly Gly Arg Ser Gln Val Arg Pro Leu Ala Ala Gly Gly Pro
35      40      45
Gly Arg Pro Arg Ala Asp Leu Arg Pro Thr Pro Pro Pro Gly Leu His
50      55      60
Pro Val Arg Gly Ala Gly Arg Leu Arg Gly Leu Gln His Gly Gly Pro
65      70      75      80
Glu Arg Arg Leu Asp Gly Pro Gly Glu Arg Gly Arg Leu Pro Ala Ala
85      90      95
Gly Pro Gly Pro Gly Leu Arg Gly Ala Pro Gly Arg Arg Val Gln Leu
100     105     110
Asp His Gly Ala Asp Ala Gly His Arg His Arg Gly Gly Pro Gly His
115     120     125
Gly His Gln Arg Arg Ala Ala Ala Arg Asp Gly Gly Arg Gly Gln Ala
130     135     140
His Arg Gly His Arg Pro Gln Gly Pro Ala Glu His Pro His Arg Gly
145     150     155     160
Gly Arg Gln Ala Gly Arg Leu Ser Glu His Asp Gln Arg Gln Arg Arg
165     170     175
Glu Ala Glu Lys Pro Val His Arg His Gly Asp Gly Arg Gly Val Trp
180     185     190
Arg His Ala Thr Asp Pro Pro Asp Ala Pro Gly Pro Lys Pro Ala Ala
195     200     205
Arg Pro Gly His Gln Glu Cys Arg Arg Pro Gly Leu Arg Pro Ala Ala
210     215     220
Gly His Gly Tyr Arg Arg Gly Ala Pro Gly Gln Pro Gly His Arg His
225     230     235     240
Arg Gln Arg Arg Arg Ser His Pro Arg Gly Pro Pro Gly Asp Pro Gly
245     250     255
Tyr Arg Gln His Ala Arg Leu Pro Ala Arg Glu Thr Asp Leu Arg Pro
260     265     270
Val His Ala Arg Arg Pro Arg Ala Ala Gln Pro Cys Pro Gly Ala Gly
275     280     285
Pro His Pro Glu Gly Glu Gly Gly Gln Gly Arg Cys Tyr Glu Glu Pro
290     295     300
Gln Pro Trp Arg Trp Leu Glu Arg Pro Arg Leu Pro Arg Leu His His
305     310     315     320

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Ser Glu Pro Asp Ala Gly Leu Ala Pro Glu Pro Gly Val Arg Ala Asp
325 330 335

Glu Arg Gly Leu His Gln Gln Gly Ala Pro Asp Ala Gln Pro His Ala
340 345 350

<210> 373

<211> 190

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 30572 right: 31141 frame: -3 size(aa): 190

<400> 373

Pro Ser Met Leu Pro Ile Pro Trp Ile Ala Trp Arg Pro Pro Gly Met
1 5 10 15

Arg Pro Ala Thr Leu Pro Met Pro Met Pro Arg Leu Thr Gly Ser Pro
20 25 30

Pro Ala Ile Pro Met Ala Cys Cys Arg Ala Lys Pro Arg Pro Ser Ala
35 40 45

Phe Leu Val Ala Trp Ser Ser Ser Arg Phe Arg Ala Trp Ser Val Arg
50 55 60

Arg Ile Gly Gly Met Thr Pro Asp Pro Thr Thr Val Pro Met Ser Met
65 70 75 80

Asn Arg Phe Phe Ser Phe Ser Thr Leu Ala Leu Val Val Phe Arg Glu
85 90 95

Ala Ser Ser Leu Ser Ala Pro Ser Val Arg Met Phe Cys Arg Ala Leu
100 105 110

Arg Thr Met Ser Pro Val Ser Leu Pro Ser Ala Ala Ile Ser Arg Ser
115 120 125

Cys Pro Ala Leu Met Pro Met Thr Arg Ala Thr Ser Met Pro Met Ala
130 135 140

Gly Val Cys Ser Met Ile Glu Leu Asn Ser Ser Pro Arg Ser Ala Pro
145 150 155 160

Glu Pro Arg Ala Trp Ala Ser Cys Arg Lys Ala Pro Ser Leu Ser Trp
165 170 175

Ala Val Glu Pro Pro Phe Arg Ala Ala Val Leu Lys Pro Ser
180 185 190

<210> 374

<211> 498

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 30969 right: 32462 frame: -1 size(aa): 498

<400> 374

Asp	Arg	Gly	Glu	Ser	Ala	Leu	Ala	Val	Glu	Ala	Pro	Gly	Ala	Gly	Ser	
1				5					10					15		
Gly	Ala	Gly	Val	Ala	Ala	Pro	Val	Glu	Arg	Thr	His	His	Leu	Ala	Glu	
			20					25					30			
Gln	Thr	Ala	Gln	Glu	Pro	Ala	Leu	Val	Val	Leu	Gly	Asp	Ala	Pro	Glu	
		35					40					45				
Ala	Arg	Leu	Gln	Gln	His	Arg	Arg	Gln	Arg	Phe	Glu	Arg	Pro	Gly	Glu	
	50					55					60					
Ala	Gly	Leu	Pro	Val	Val	Gly	Ala	Leu	Asp	Gln	Val	Gly	Glu	Gln	Pro	
65					70				75						80	
Ala	Gln	Gly	Ala	Ala	Pro	Leu	Leu	Pro	Lys	Gly	Ile	Glu	Leu	Ala	Leu	
				85					90					95		
Pro	Leu	His	Leu	Thr	Val	Glu	Gly	Leu	Leu	Pro	Val	Val	Glu	Leu	Ala	
			100					105					110			
Gly	Pro	Gly	Arg	Ala	His	Pro	Gly	Gly	Arg	His	Leu	Ala	His	Gly	Val	
		115					120					125				
Pro	Ala	Leu	Gln	Gly	Pro	His	Arg	Val	Gly	Pro	Pro	Glu	Gly	Gly	Leu	
	130					135					140					
Glu	Pro	Leu	Asp	Val	Val	Glu	Pro	Gly	Ala	His	Gly	Arg	Leu	Leu	Leu	
145					150					155					160	
Pro	Gly	His	Leu	Tyr	Gln	Gly	Val	Pro	Gln	Gly	Leu	Gly	Glu	Leu	His	
			165					170					175			
Leu	Leu	Ala	Leu	Asp	Leu	Asp	Ser	Leu	Gly	Leu	Gly	Asp	Val	Gly	Pro	
			180					185					190			
Leu	Leu	Leu	Gly	Asp	Gly	Ile	Pro	Val	Gln	Val	Gly	Glu	Leu	Val	His	
		195					200					205				
Ser	Val	His	Pro	Val	Phe	Val	Cys	Gly	Gly	Leu	Asp	Pro	Leu	Leu	Val	
	210					215					220					
Gly	Ala	Gly	Leu	Gly	Asp	Leu	Glu	Leu	Gly	Leu	Gly	Gln	Gly	Gln	Gly	
225					230					235					240	
Pro	Ala	Ala	Arg	Ala	Gln	Thr	Val	Leu	Pro	Leu	Leu	Leu	Ala	Leu	Gly	
				245					250					255		
Leu	Phe	Leu	Cys	Gly	Leu	Val	Cys	Pro	Leu	Gly	Pro	Leu	His	Arg	His	
			260					265					270			
Pro	Ala	Ala	Ala	Leu	Ala	Val	Glu	Pro	His	Gln	Leu	Gly	Gln	Pro	Arg	
	275						280					285				
Gly	Asp	Pro	Asp	Pro	Ala	Ala	Gly	Gly	Gly	Asp	Val	His	Val	Val	Leu	

290 295 300
 Val Pro Pro Gly Val Pro Ser Arg Ala Glu Gln Leu Val Ala Glu Arg
 305 310 315 320
 Pro Gly Arg Pro Gln Ala Gly Leu Glu Arg Leu Ser Pro Leu Asp Gly
 325 330 335
 Glu Gly Ile Arg Ala Ile Glu Leu Ala Asp Val Asp Gly Val Lys His
 340 345 350
 Val Val Gly Arg Pro Val Pro Leu Val Gly Glu Val Pro Ala Arg Pro
 355 360 365
 Leu Val Pro Leu Ala Pro Glu Pro Val Pro His Leu Val Arg Cys Asp
 370 375 380
 Val Gly Gly Glu Val Gly Ala Ala Arg Ala Thr Ala Thr Ala Ala Ala
 385 390 395 400
 Leu Arg Ser Ser Val Leu Gly Leu Leu Leu Pro Pro Asp Ala Gly Leu
 405 410 415
 Leu Leu Gly Thr Ala Ala Leu Leu Glu Ala Phe Trp His Glu Arg Ala
 420 425 430
 Glu Gly Leu Phe Leu Gly Leu Val Ala Glu His Ala Ala Asp Thr Leu
 435 440 445
 Asp Arg Leu Ala Ala Pro Gly Asp Ala Thr Gly Asp Val Ala Asp Ala
 450 455 460
 Asp Ala Gln Val Asp Arg Glu Pro Pro Gly Asp Thr His Gly Leu Leu
 465 470 475 480
 Gln Gly Glu Ala Gln Ala Val Gly Ile Leu Gly Gly Leu Val Glu Gln
 485 490 495
 Gln Val

<210> 375

<211> 173

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 30970 right: 31488 frame: 2 size(aa): 173

<400> 375

Thr Cys Cys Ser Thr Arg Pro Pro Arg Met Pro Thr Ala Trp Ala Ser
 1 5 10 15

Pro Cys Ser Arg Pro Trp Val Ser Pro Gly Gly Ser Arg Ser Thr Trp
 20 25 30

Ala Ser Ala Ser Ala Thr Ser Pro Val Ala Ser Pro Gly Ala Ala Arg
 35 40 45

Arg Ser Arg Val Ser Ala Ala Cys Ser Ala Thr Ser Pro Arg Asn Arg
50 55 60

Pro Ser Ala Arg Ser Cys Gln Lys Ala Ser Ser Ser Ala Ala Val Pro
65 70 75 80

Arg Ser Arg Pro Ala Ser Gly Gly Arg Arg Arg Pro Arg Thr Leu Leu
85 90 95

Arg Arg Ala Ala Ala Val Ala Val Ala Arg Ala Ala Pro Thr Ser Pro
100 105 110

Pro Thr Ser Gln Arg Thr Arg Cys Gly Thr Gly Ser Gly Ala Arg Gly
115 120 125

Thr Ser Gly Arg Ala Gly Thr Ser Pro Thr Arg Gly Thr Gly Arg Pro
130 135 140

Thr Thr Cys Leu Thr Pro Ser Thr Ser Ala Ser Ser Met Ala Arg Met
145 150 155 160

Pro Ser Pro Ser Ser Gly Leu Arg Arg Ser Arg Pro Ala
165 170

<210> 376

<211> 54

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 31145 right: 31306 frame: -3 size(aa): 54

<400> 376

Ala Gly Lys Ser Gly Pro Leu Glu Pro Pro Pro Arg Leu Arg Leu Phe
1 5 10 15

Val Ala Ala Ser Leu Ala Ser Phe Ser Leu Arg Met Arg Ala Cys Ser
20 25 30

Trp Ala Arg Leu Arg Cys Ser Arg Pro Ser Gly Met Asn Gly Pro Lys
35 40 45

Val Cys Phe Ser Gly Trp
50

<210> 377

<211> 275

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 31310 right: 32134 frame: -3 size(aa): 275

<400> 377

Ser Ser Pro Ala Leu Ala Gly Pro Thr Pro Ala Ala Asp Ile Ser Pro
1 5 10 15
Thr Ala Phe Arg Arg Ser Arg Ala Arg Thr Ala Ser Gly Pro Arg Arg
20 25 30
Val Ala Ser Ser Arg Ser Met Leu Ser Ser Arg Gly Arg Met Ala Ala
35 40 45
Ser Cys Phe Arg Ala Thr Ser Thr Arg Ala Ser Pro Arg Asp Leu Ala
50 55 60
Ser Ser Thr Cys Trp Arg Trp Ile Ser Thr Pro Trp Ala Leu Ala Met
65 70 75 80
Leu Ala Arg Ser Ser Ser Val Thr Ala Ser Leu Tyr Arg Ser Ala Asn
85 90 95
Ser Tyr Ile Arg Ser Ile Arg Ser Leu Ser Ala Val Ala Trp Ile Arg
100 105 110
Cys Ser Ser Val Leu Ala Trp Ala Ile Leu Ser Ser Ala Trp Ala Arg
115 120 125
Ala Arg Ala Arg Pro Leu Val Arg Arg Pro Ser Ser Arg Phe Cys Trp
130 135 140
Arg Ser Ala Ser Phe Ser Ala Ala Ser Phe Ala His Ser Ala Pro Cys
145 150 155 160
Ile Ala Ile Pro Pro Leu Pro Leu Pro Leu Ser Pro Ile Ser Trp Ala
165 170 175
Ser Pro Gly Val Thr Arg Ile Arg Pro Pro Gly Val Gly Met Cys Thr
180 185 190
Trp Ser Leu Cys Pro Arg Gly Ser Arg Val Gly Pro Asn Ser Trp Leu
195 200 205
Pro Asn Ala Pro Val Ala Leu Arg Arg Ala Ser Ser Ala Leu Ala Arg
210 215 220
Trp Thr Ala Lys Ala Tyr Glu Pro Ser Ser Ser Pro Met Ser Met Ala
225 230 235 240
Leu Ser Met Trp Leu Gly Val Arg Cys Pro Leu Leu Val Lys Ser Pro
245 250 255
Leu Val Arg Ser Tyr Pro Trp Leu Arg Ser Gln Ser Arg Ile Trp Phe
260 265 270
Ala Val Met
275

<210> 378

<211> 362

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 31472 right: 32557 frame: 3 size(aa): 362.

<400> 378

Gly	Ala	Arg	Gly	Pro	Pro	Glu	Gly	Asp	Arg	Gly	Val	Arg	Gln	Pro	Ala	1	5	10	15
Val	Arg	Pro	Asp	Ser	Gly	Pro	Pro	Gly	Ala	Gln	Gly	Pro	Arg	Ala	His	20	25	30	
Pro	His	Pro	Arg	Arg	Pro	Asp	Pro	Gly	His	Pro	Gly	Ala	Gly	Pro	Ala	35	40	45	
Asp	Gly	Ala	Gln	Arg	Gln	Gly	Gln	Arg	Arg	Asp	Gly	Asp	Ala	Gly	Gly	50	55	60	
Arg	Val	Gly	Lys	Arg	Gly	Arg	Arg	Glu	Arg	Gly	Arg	Ala	Pro	Ala	Glu	65	70	75	
Ala	Gly	Gly	Arg	Ser	Ala	His	Glu	Arg	Pro	Gly	Pro	Gly	Pro	Gly	Pro	85	90	95	
Gly	Arg	Ala	Gln	Asp	Arg	Pro	Gly	Gln	His	Arg	Arg	Ala	Ala	Asp	Pro	100	105	110	
Gly	His	Arg	Arg	Gln	Arg	Pro	Asp	Gly	Pro	Asn	Val	Arg	Val	Arg	Arg	115	120	125	
Pro	Val	Gln	Gly	Cys	Arg	His	Arg	Gly	Gly	Ala	Gly	Gln	His	Arg	Gln	130	135	140	
Gly	Pro	Gly	Ser	Arg	Asp	Pro	Ala	Pro	Ala	Gly	Gly	Ala	Arg	Gln	Val	145	150	155	
Pro	Gly	Gly	Arg	Pro	Gly	Arg	Gly	Gly	Pro	Glu	Ala	Gly	Gly	Gly	His	165	170	175	
Ala	Pro	Pro	Ala	Arg	Gln	His	Arg	Ala	Ala	Arg	Gly	His	Pro	Pro	Gly	180	185	190	
Ala	Arg	Arg	Gly	Ala	Gly	Pro	Gly	Ala	Pro	Glu	Arg	Arg	Gly	Arg	Asp	195	200	205	
Val	Gly	Arg	Arg	Gly	Gly	Pro	Gly	Gln	Gly	Arg	Arg	Ala	Leu	Arg	Pro	210	215	220	
Gly	Ala	Gly	Pro	Arg	Pro	Ser	Gly	Gly	Ala	Ala	Thr	Arg	Ala	Gln	Cys	225	230	235	
Pro	Leu	Gly	Gly	Gly	Gly	Pro	His	Pro	Gly	Arg	Ala	Val	Leu	Arg	Pro	245	250	255	
Gly	Gln	Gly	His	Arg	Arg	Leu	Ala	Gly	Gln	Pro	His	Pro	Gly	Ala	Arg	260	265	270	
Ile	Ala	Gly	Val	Gly	Ala	Ala	Ala	Gly	Gly	Pro	Pro	Gly	His	Arg	Arg	275	280	285	
Glu	Gln	Pro	Gly	Arg	Val	Pro	Gly	Arg	Ser	Ala	Gln	Pro	Gly	Asp	Gly	290	295	300	

Phe Val Arg Arg Gly Arg Leu His Arg Leu Arg Ile Pro His Arg Gly
305 310 315 320

Pro Arg Arg Gln Gly Arg Ile Arg Arg Asp Pro Thr Pro Glu Arg Asp
325 330 335

Cys Arg Arg Ser His Pro Gly Ala Gly Gly Arg Arg Arg His Gly Gln
340 345 350

Arg Arg Arg Asp His Gly Gln Arg Arg Gln
355 360

<210> 379

<211> 117

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 31618 right: 31968 frame: 2 size(aa): 117

<400> 379

Trp Gly Ser Thr Ala Arg Ala Ala Ala Gly Trp Arg Cys Arg Gly Pro
1 5 10 15

Ser Gly Gln Thr Arg Pro Gln Arg Lys Arg Pro Ser Ala Ser Arg Ser
20 25 30

Gly Arg Thr Val Cys Ala Arg Ala Ala Gly Pro Trp Pro Trp Pro Arg
35 40 45

Pro Ser Ser Arg Ser Pro Arg Pro Ala Pro Thr Ser Ser Gly Ser Arg
50 55 60

Pro Pro Gln Thr Lys Thr Gly Trp Thr Glu Cys Thr Ser Ser Pro Thr
65 70 75 80

Cys Thr Gly Met Pro Ser Pro Arg Arg Ser Gly Pro Thr Ser Pro Arg
85 90 95

Pro Arg Glu Ser Arg Ser Ser Ala Ser Arg Trp Ser Ser Pro Ser Pro
100 105 110

Trp Gly Thr Pro Trp
115

<210> 380

<211> 103

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 31876 right: 32184 frame: -2 size(aa): 103

<400> 380

Ala Arg Val Ala Ala Pro Pro Asp Gly Arg Gly Pro Ala Pro Gly Arg
 1 5 10 15
 Arg Ala Arg Arg Pro Trp Pro Gly Pro Pro Arg Arg Pro Thr Ser Arg
 20 25 30
 Pro Arg Arg Ser Gly Ala Pro Gly Pro Ala Pro Arg Arg Ala Pro Gly
 35 40 45
 Gly Trp Pro Arg Ala Ala Arg Cys Cys Arg Ala Gly Gly Ala Trp Pro
 50 55 60
 Pro Pro Ala Ser Gly Pro Pro Leu Pro Gly Arg Pro Pro Gly Thr Trp
 65 70 75 80
 Arg Ala Pro Pro Ala Gly Ala Gly Ser Arg Leu Pro Gly Pro Trp Arg
 85 90 95
 Cys Trp Pro Ala Pro Pro Arg
 100

<210> 381

<211> 135

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 31972 right: 32376 frame: 2 size(aa): 135

<400> 381

Arg Trp Pro Gly Ser Arg Arg Arg Pro Cys Ala Pro Gly Ser Thr Thr
 1 5 10 15
 Ser Ser Gly Ser Arg Pro Pro Ser Gly Gly Pro Thr Arg Cys Gly Pro
 20 25 30
 Trp Ser Ala Gly Thr Pro Trp Ala Arg Cys Arg Pro Pro Gly Trp Ala
 35 40 45
 Arg Pro Gly Pro Ala Ser Ser Thr Thr Gly Ser Arg Pro Ser Thr Val
 50 55 60
 Arg Trp Ser Gly Asn Ala Ser Ser Met Pro Phe Gly Arg Arg Gly Ala
 65 70 75 80
 Ala Pro Trp Ala Gly Cys Ser Pro Thr Trp Ser Arg Ala Pro Thr Thr
 85 90 95
 Gly Arg Pro Ala Ser Pro Gly Arg Ser Asn Arg Trp Arg Arg Cys Cys
 100 105 110
 Cys Arg Arg Ala Ser Gly Ala Ser Pro Arg Thr Thr Arg Ala Gly Ser
 115 120 125
 Trp Ala Val Cys Ser Ala Arg
 130 135

<210> 382

<211> 79
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32165 right: 32401 frame: -3 size(aa): 79

<400> 382

Pro Pro Pro Ser Asn Glu Pro Ile Thr Trp Leu Ser Arg Pro Pro Arg
1 5 10 15

Asn Pro Pro Trp Leu Phe Ser Ala Met Pro Arg Arg Pro Ala Cys Ser
20 25 30

Ser Thr Asp Ala Ser Asp Ser Ser Ala Arg Val Arg Leu Ala Cys Gln
35 40 45

Ser Ser Val Pro Leu Thr Arg Ser Glu Asn Ser Pro Pro Arg Val Arg
50 55 60

Pro Pro Ser Ser Gln Arg Ala Leu Ser Ser Arg Cys Arg Ser Thr
65 70 75

<210> 383
<211> 51
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32371 right: 32523 frame: -2 size(aa): 51

<400> 383

Pro Cys Arg Arg Arg Pro Pro Ala Pro Gly Cys Asp Arg Arg Gln Ser
1 5 10 15

Arg Ser Gly Val Gly Ser Arg Arg Ile Arg Pro Cys Arg Arg Gly Pro
20 25 30

Arg Cys Gly Ile Arg Ser Arg Cys Ser Arg Pro Arg Arg Thr Asn Pro
35 40 45

Ser Pro Gly
50

<210> 384
<211> 65
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32380 right: 32574 frame: 2 size(aa): 65

<400> 384

Trp Val Arg Ser Thr Gly Ala Ala Thr Pro Ala Pro Asp Pro Ala Pro
1 5 10 15

Gly Ala Ser Thr Ala Arg Ala Asp Ser Pro Arg Ser Tyr Thr Arg Thr
20 25 30

Arg Leu Ser Ser Ile Thr Pro Gly Gly Arg Arg Pro Ala Ala Ala Trp
35 40 45

Ser Thr Ser Ala Gly Ser Arg Ser Thr Ser Pro Val Thr Gly Pro Pro
50 55 60

Arg
65

<210> 385

<211> 148

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 32466 right: 32909 frame: -1 size(aa): 148

<400> 385

Thr Pro Ser Ser Ala Ser Trp Ser Arg Ser Ser Pro Ser Ser Leu Ala
1 5 10 15

Ser Phe Ser Gly Ser Pro Arg Pro Arg Pro Thr Gly Pro Ala Ala Gly
20 25 30

Thr Ala Pro Gly Ser Ala Arg Pro Arg Ser Pro Thr Ala Trp Ala Ser
35 40 45

Pro Gly Thr Gly Ser Val Arg Cys Trp Pro Gly Asp Thr Gly Glu Pro
50 55 60

Arg Gly Gly Ala Ser Pro Ser Pro Gly Ala Ser Ala Pro Leu Ala Gly
65 70 75 80

Ser Gln Asp Ala Ser Arg Ala His Leu Ala Gln Asp Leu Gly Arg His
85 90 95

Arg Arg Leu Asp Pro Thr Gly Glu Leu Pro Ala Pro Gly Gly Val Tyr
100 105 110

Leu Gly Gly Pro Val Thr Gly Asp Val Asp Arg Asp Pro Ala Asp Val
115 120 125

Asp His Ala Ala Ala Gly Arg Leu Pro Pro Gly Val Ile Asp Asp Ser
130 135 140

Leu Val Arg Val
145

<210> 386

<211> 167

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 32492 right: 32992 frame: -3 size(aa): 167

<400> 386

Pro Leu Leu Tyr Ala Ile Leu Gly Lys Ser Ala Val Glu His Gly Cys
1 5 10 15

Ser Arg Arg Ser Ser His Ser Ile Ser Ser Asp Glu His His Pro Leu
20 25 30

His Pro Gly His Asp Arg Arg Arg Leu Arg Trp Arg His Ser Leu Gly
35 40 45

His Arg Asp Pro Asp Arg Pro Gly Pro Pro Leu Ala Pro Leu Arg Gly
50 55 60

Gln Pro Gly Gln Asp Arg Arg Pro Pro Gly Arg His Pro Val Pro Gly
65 70 75 80

Pro Ser Asp Ala Gly Pro Val Thr Pro Gly Ser Pro Gly Glu Gly Pro
85 90 95

Leu Leu Pro Arg Gly His Gln Pro Arg Trp Pro Ala Ala Arg Thr Pro
100 105 110

Pro Gly Arg Ile Trp Arg Arg Ile Ser Ala Val Thr Ala Ala Trp Thr
115 120 125

Pro Arg Ala Ser Ser Pro Pro Pro Ala Ala Ser Thr Ser Val Val Pro
130 135 140

Ser Leu Ala Thr Leu Thr Val Ile Pro Pro Thr Leu Thr Met Pro Pro
145 150 155 160

Pro Ala Ala Cys Pro Arg Val
165

<210> 387

<211> 61

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 32548 right: 32730 frame: -2 size(aa): 61

<400> 387

His Arg Gly Ala Pro Gly Arg Gly Leu Ser Phe Pro Gly Gly Ile Ser
1 5 10 15

Pro Ala Gly Arg Gln Pro Gly Arg Leu Pro Gly Ala Ser Gly Ala Gly
20 25 30

Ser Arg Pro Ser Pro Pro Pro Gly Pro His Gly Arg Ala Pro Arg Pro

35 40 45
 Arg Arg Arg Leu Pro Arg Trp Ser Arg His Trp Arg Arg
 50 55 60
 <210> 388
 <211> 62
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 32561 right: 32746 frame: 3 size(aa): 62

<400> 388
 Arg Asp His Arg Gly Arg Arg Arg Arg Gly Arg Gly Ala Arg Pro Trp
 1 5 10 15
 Gly Pro Gly Gly Gly Asp Gly Arg Asp Pro Ala Pro Asp Ala Pro Gly
 20 25 30
 Arg Arg Pro Gly Cys Arg Pro Ala Gly Leu Met Pro Pro Gly Lys Glu
 35 40 45
 Arg Pro Leu Pro Gly Ala Pro Arg Cys His Arg Ala Ser Ile
 50 55 60
 <210> 389
 <211> 117
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 32626 right: 32976 frame: 2 size(aa): 117

<400> 389
 Arg Pro Arg Ser Cys Ala Arg Cys Ala Arg Glu Ala Ser Trp Leu Pro
 1 5 10 15
 Ala Ser Gly Ala Asp Ala Pro Gly Glu Gly Glu Ala Pro Pro Arg Gly
 20 25 30
 Ser Pro Val Ser Pro Gly Gln His Leu Thr Asp Pro Val Pro Gly Asp
 35 40 45
 Ala Gln Ala Val Gly Asp Leu Gly Leu Ala Asp Pro Gly Ala Val Pro
 50 55 60
 Ala Ala Gly Pro Val Gly Arg Gly Leu Gly Asp Pro Glu Asn Asp Ala
 65 70 75 80
 Asn Glu Asp Gly Asp Asp Arg Asp Gln Asp Ala Glu Asp Gly Val His
 85 90 95
 Arg Arg Lys Cys Cys Gly Lys Ser Gly Gly Ser Ile His Ala Arg Pro
 100 105 110

Pro Ile Tyr Pro Val
115

<210> 390

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 32734 right: 33012 frame: -2 size(aa): 93

<400> 390

Pro Ala Cys Pro His Gly Ser Arg Phe Cys Met Leu Tyr Trp Val Asn
1 5 10 15

Arg Arg Ser Ser Met Asp Ala Pro Ala Ala Leu Pro Thr Ala Phe Pro
20 25 30

Pro Met Asn Thr Ile Leu Cys Ile Leu Val Thr Ile Val Ala Val Phe
35 40 45

Val Gly Val Ile Leu Trp Val Thr Glu Thr Pro Thr Asp Arg Ala Arg
50 55 60

Arg Trp His Arg Ser Gly Val Ser Gln Ala Lys Ile Ala Asp Arg Leu
65 70 75 80

Gly Val Thr Arg Tyr Arg Val Arg Gln Met Leu Ala Arg
85 90

<210> 391

<211> 90

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 32750 right: 33019 frame: 3 size(aa): 90

<400> 391

Arg Thr Arg Tyr Arg Val Thr Pro Arg Arg Ser Ala Ile Leu Ala Trp
1 5 10 15

Leu Thr Pro Glu Arg Cys Gln Arg Arg Ala Arg Ser Val Gly Val Ser
20 25 30

Val Thr Gln Arg Met Thr Pro Thr Lys Thr Ala Thr Ile Val Thr Arg
35 40 45

Met Gln Arg Met Val Phe Ile Gly Gly Asn Ala Val Gly Arg Ala Ala
50 55 60

Gly Ala Ser Met Leu Asp Arg Arg Phe Thr Gln Tyr Ser Ile Gln Lys
65 70 75 80

Arg Leu Pro Trp Gly His Ala Gly Gln Leu
85 90

<210> 392

<211> 159

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 32889 right: 33365 frame: 1 size(aa): 159

<400> 392

Pro Gly Cys Arg Gly Trp Cys Ser Ser Glu Glu Met Leu Trp Glu Glu
1 5 10 15

Arg Arg Glu His Pro Cys Ser Thr Ala Asp Leu Pro Ser Ile Ala Tyr
20 25 30

Arg Ser Gly Tyr Arg Gly Gly Met Pro Val Ser Cys Asn Ser Gln Ile
35 40 45

Asp Leu Gly Thr Leu Arg Val Gln Val Thr Ala Thr Gly Gln Thr Ser
50 55 60

Gln Arg Ile Leu Ala Val Gln Phe Gly Asp Gly Tyr Arg Glu Arg Arg
65 70 75 80

Pro Asp Gly Ile Asn Thr Glu Val Arg Arg Trp Ser Val Ser Thr Pro
85 90 95

Pro Met Gly Ile Ala Asp Val Leu Glu Leu Glu Asp Ala Leu Arg Ala
100 105 110

Leu Gly Thr Gly Ala Phe Ala Trp Ala Pro Pro Gly Glu Asp Asp Met
115 120 125

Val Leu Trp Glu Leu Asp Pro Val Glu Trp Thr Arg Thr Tyr Gln Ala
130 135 140

Asp His Leu Ala Ser Leu Ser Phe Ala Leu Arg Ser Ala Asn Pro
145 150 155

<210> 393

<211> 156

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 32970 right: 33437 frame: -1 size(aa): 156

<400> 393

Thr Gly Arg Ser Arg His Pro Gly Pro Gly Val Pro Pro Ala Ala Arg
1 5 10 15

Cys Leu Gly Trp Gly Pro Gly Ser Trp Val Gly Arg Ala Gln Gly Lys

20 25 30
 Arg Gln Ala Arg Gln Val Val Gly Leu Val Gly Ala Gly Pro Leu Asp
 35 40 45
 Arg Val Glu Leu Pro Glu His His Val Val Leu Ala Gly Gly Arg Pro
 50 55 60
 Cys Glu Arg Pro Gly Ala Gln Gly Pro Glu Arg Ile Leu Glu Leu Gln
 65 70 75 80
 Asp Val Arg Asp Ala His Gly Arg Gly Gly Asp Arg Pro Ala Pro His
 85 90 95
 Leu Gly Val Asp Ala Ile Gly Ala Ser Leu Pro Val Pro Val Pro Glu
 100 105 110
 Leu His Arg Lys Asp Ala Leu Gly Arg Leu Pro Arg Ser Gly Asp Leu
 115 120 125
 His Pro Glu Gly Ala Gln Val Asp Leu Thr Val Thr Ala Asp Arg His
 130 135 140
 Ala Pro Thr Val Ala Ala Ser Val Cys Tyr Thr Gly
 145 150 155

<210> 394

<211> 227

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 32980 right: 33660 frame: 2 size(aa): 227

<400> 394

His Thr Glu Ala Ala Thr Val Gly Ala Cys Arg Ser Ala Val Thr Val
 1 5 10 15
 Arg Ser Thr Trp Ala Pro Ser Gly Cys Arg Ser Pro Leu Arg Gly Arg
 20 25 30
 Arg Pro Ser Ala Ser Leu Arg Cys Ser Ser Gly Thr Gly Thr Gly Ser
 35 40 45
 Asp Ala Pro Met Ala Ser Thr Pro Arg Cys Gly Ala Gly Arg Ser Pro
 50 55 60
 Pro Arg Pro Trp Ala Ser Arg Thr Ser Trp Ser Ser Arg Met Arg Ser
 65 70 75 80
 Gly Pro Trp Ala Pro Gly Arg Ser His Gly Arg Pro Pro Ala Arg Thr
 85 90 95
 Thr Trp Cys Ser Gly Ser Ser Thr Arg Ser Ser Gly Pro Ala Pro Thr
 100 105 110
 Arg Pro Thr Thr Trp Arg Ala Cys Arg Leu Pro Cys Ala Arg Pro Thr
 115 120 125

His Glu Pro Gly Pro His Pro Arg His Arg Ala Ala Gly Gly Thr Pro
 130 135 140

Gly Pro Gly Cys Arg Asp Arg Pro Val His Pro Arg Pro Val Asp Leu
 145 150 155 160

Arg Ser Gly Gln Gly Ala Leu Pro Val Leu Gln Leu Glu Pro Glu Arg
 165 170 175

Arg Gly Arg Pro Val Leu Arg Arg Arg Gly Val Arg Ala Asp Ala Gly
 180 185 190

Arg Val Tyr Arg Leu Pro Asp Gln Gln Gln Gln Arg Thr Glu Arg Ala
 195 200 205

Pro Asp Ala Gly Leu Gln Arg Arg Pro Asp Leu Asp Arg Pro Gly Gln
 210 215 220

Arg Leu Gly
 225

<210> 395

<211> 509

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 33023 right: 34549 frame: 3 size(aa): 509

<400> 395

Gln Ser Asp Arg Pro Gly His Pro Pro Gly Ala Gly His Arg Tyr Gly
 1 5 10 15

Ala Asp Val Pro Ala His Pro Cys Gly Ala Val Arg Gly Arg Val Pro
 20 25 30

Gly Ala Thr Pro Arg Trp His Gln His Arg Gly Ala Ala Leu Val Gly
 35 40 45

Leu His Pro Ala His Gly His Arg Gly Arg Pro Gly Ala Arg Gly Cys
 50 55 60

Ala Pro Gly Pro Gly His Arg Gly Val Arg Met Gly Ala Pro Arg Arg
 65 70 75 80

Gly Arg His Gly Ala Leu Gly Ala Arg Pro Gly Arg Val Asp Pro His
 85 90 95

Leu Pro Gly Arg Pro Pro Gly Glu Pro Val Val Cys Pro Ala Leu Gly
 100 105 110

Gln Pro Met Ser Pro Val Pro Ile Pro Asp Ile Glu Gln Leu Ala Gly
 115 120 125

Leu Gln Asp Leu Asp Ala Val Ile Asp Leu Phe Ile Leu Asp Leu Ser
 130 135 140

Ile Phe Asp Pro Gly Arg Ala Pro Tyr Arg Phe Cys Asn Trp Ser Gln
 145 150 155 160
 Ser Gly Gly Val Gly Leu Phe Tyr Asp Gly Glu Glu Tyr Glu Pro Met
 165 170 175
 Pro Val Glu Cys Thr Gly Phe Gln Ile Asn Ser Asn Ser Ala Pro Ser
 180 185 190
 Glu Pro Gln Met Arg Val Ser Asn Val Gly Leu Thr Trp Thr Gly Leu
 195 200 205
 Val Asn Ala Trp Asp Asp Leu Val Gly Ala Lys Leu Ile Arg Arg Arg
 210 215 220
 Val Leu Arg Arg Tyr Leu Asp Asp Gly Ala Thr Pro Ser Pro Thr Gly
 225 230 235 240
 His Trp Pro Asp Glu Pro Trp Phe Ile Glu Arg Lys Val Ala Glu Ser
 245 250 255
 Lys Leu Thr Val Thr Phe Ala Leu Ser Thr Ala Phe Ala Leu Asp Asp
 260 265 270
 Val Arg Leu Pro Lys Arg Leu Ala Leu Arg His Thr Cys Ser Trp Thr
 275 280 285
 Tyr Arg Gly Glu Gly Cys Gly Tyr Thr Gly Tyr Pro Val Ala Asp Ala
 290 295 300
 Arg Asn Gln Pro Leu Pro Pro Pro Met Asp Pro Ala Leu Gln Ala Phe
 305 310 315 320
 Tyr Asp Ala Val Ala Leu Phe Arg Ala Gln Thr Pro Val Val Gln Ala
 325 330 335
 Ala Glu Ala Ala Val Ala Ile Gln Glu Asn Ala Tyr Asn Asn Ser Ile
 340 345 350
 Glu Asp Ser Trp Ser Arg Leu Thr Thr Gly Tyr Asn Arg Asn Phe Pro
 355 360 365
 Tyr Ser Phe Val Phe Thr Tyr Pro Thr Gly Ser Leu Gln Ala Leu Phe
 370 375 380
 Gly Val Asn Leu Ile Tyr Ser Gly Gly Val Leu Ile Pro Ala Leu Asn
 385 390 395 400
 Gln Thr Trp Arg Arg Gly Ala Ile Arg Ala Gln Asn Phe Asp Gly Ser
 405 410 415
 Ala Tyr Tyr Glu Ile Glu Gln Trp Gln Phe Asn Pro Gly Asn Arg Ala
 420 425 430
 Thr Ala Leu Ala Asn Leu Asn Ser Ala Arg Ser Ala Leu Ala Ala Ala
 435 440 445
 Arg Ala Val Leu Glu Ser Arg Arg Ala Thr Ala Leu Ser Leu Lys Ala
 450 455 460
 Ala Ala Asp Ala Ile Arg Asp Pro Arg Asp Gln Cys Ser Lys Thr Ile

465 470 475 480
 Ala Gly Cys Arg Leu Arg Phe Phe Asp Pro Leu Thr Gly Ala Thr Leu
 485 490 495

Pro Leu Pro Thr Ser Ala Phe Pro Gly Leu Gln Ile Gly
 500 505

<210> 396

<211> 94

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 33029 right: 33310 frame: -3 size(aa): 94

<400> 396

Val Arg Val His Ser Thr Gly Ser Ser Ser Gln Ser Thr Met Ser Ser
 1 5 10 15

Ser Pro Gly Gly Ala His Ala Asn Ala Pro Val Pro Arg Ala Arg Ser
 20 25 30

Ala Ser Ser Ser Ser Arg Thr Ser Ala Met Pro Met Gly Gly Val Glu
 35 40 45

Thr Asp Gln Arg Arg Thr Ser Val Leu Met Pro Ser Gly Arg Arg Ser
 50 55 60

Arg Tyr Pro Ser Pro Asn Cys Thr Ala Arg Met Arg Trp Asp Val Cys
 65 70 75 80

Pro Val Ala Val Thr Cys Thr Arg Arg Val Pro Arg Ser Ile
 85 90

<210> 397

<211> 112

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 33142 right: 33477 frame: -2 size(aa): 112

<400> 397

Gly Ala Leu Pro Gly Ser Lys Ile Asp Arg Ser Arg Met Asn Arg Ser
 1 5 10 15

Ile Thr Ala Ser Arg Ser Trp Ser Pro Ala Ser Cys Ser Met Ser Gly
 20 25 30

Met Gly Thr Gly Leu Met Gly Trp Pro Ser Ala Gly Gln Thr Thr Gly
 35 40 45

Ser Pro Gly Gly Arg Pro Gly Arg Cys Gly Ser Thr Arg Pro Gly Arg
 50 55 60

Ala Pro Arg Ala Pro Cys Arg Pro Arg Arg Gly Ala Pro Met Arg Thr
65 70 75 80

Pro Arg Cys Pro Gly Pro Gly Ala His Pro Arg Ala Pro Gly Arg Pro
85 90 95

Arg Cys Pro Trp Ala Gly Trp Arg Pro Thr Ser Ala Ala Pro Arg Cys
100 105 110

<210> 398

<211> 414

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 33314 right: 34555 frame: -3 size(aa): 414

<400> 398

Gly Ser Pro Asp Leu Glu Pro Trp Lys Gly Arg Cys Trp Gln Arg Gln
1 5 10 15

Cys Ser Ala Arg Gln Arg Ile Glu Glu Pro Glu Ala Ala Gly Asp
20 25 30

Arg Leu Thr Ala Leu Val Pro Gly Val Pro Asp Gly Val Gly Arg Arg
35 40 45

Leu Glu Arg Gln Gly Arg Gly Pro Pro Arg Leu Glu His Gly Pro Gly
50 55 60

Ser Arg Gln Gly Arg Pro Gly Arg Val Glu Val Arg Gln Gly Gly Arg
65 70 75 80

Pro Val Ala Arg Ile Glu Leu Pro Leu Leu Asp Leu Val Val Gly Arg
85 90 95

Ala Val Glu Val Leu Gly Pro Asp Gly Ala Pro Pro Pro Gly Leu Val
100 105 110

Gln Gly Gly Asp Gln Asp Ala Pro Gly Val Asp Gln Val Asp Ala Glu
115 120 125

Gln Arg Leu Glu Arg Ala Gly Arg Val Arg Glu Asp Glu Ala Val Gly
130 135 140

Glu Val Ala Val Val Pro Arg Arg Gln Ala Gly Pro Ala Val Leu Asp
145 150 155 160

Ala Val Val Val Gly Val Leu Leu Asn Gly His Cys Ser Leu Gly Arg
165 170 175

Leu Asp Asp Gly Gly Leu Gly Pro Glu Gln Gly His Arg Val Val Glu
180 185 190

Arg Leu Glu Arg Arg Val His Gly Trp Gly Gln Gly Leu Ile Pro Gly
195 200 205

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Val Gly His Gly Val Pro Gly Val Ala Ala Ser Leu Ala Pro Val Gly
 210 215 220
 Pro Ala Ala Gly Val Ala Gln Gly Gln Ala Leu Gly Gln Pro Asp Val
 225 230 235 240
 Val Gln Gly Glu Arg Cys Arg Gln Gly Glu Arg Asp Gly Gln Leu Ala
 245 250 255
 Leu Gly Asp Leu Ala Leu Asp Glu Pro Arg Leu Val Arg Pro Val Ala
 260 265 270
 Cys Arg Ala Gly Arg Gly Pro Val Val Glu Val Pro Ala Gln Asp Pro
 275 280 285
 Pro Pro Asp Gln Leu Arg Pro His Gln Val Ile Pro Gly Val Asp Gln
 290 295 300
 Ala Gly Pro Gly Gln Ala Asp Val Gly Asp Pro His Leu Gly Leu Ala
 305 310 315 320
 Arg Cys Ala Val Ala Val Asp Leu Glu Ala Gly Thr Leu Asp Arg His
 325 330 335
 Arg Leu Val Leu Leu Ala Val Val Glu Gln Ala Asp Pro Ala Ala Leu
 340 345 350
 Ala Pro Val Ala Glu Pro Val Gly Arg Pro Ala Arg Ile Glu Asp Arg
 355 360 365
 Gln Val Glu Asp Glu Gln Val Asp His Gly Ile Gln Val Leu Glu Ser
 370 375 380
 Arg Gln Leu Leu Asp Val Trp Asp Gly Asp Arg Ala His Gly Leu Ala
 385 390 395 400
 Glu Arg Arg Ala Asn Asp Arg Leu Ala Arg Trp Ser Ala Trp
 405 410

<210> 399

<211> 67

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 33429 right: 33629 frame: 1 size(aa): 67

<400> 399

Ser Thr Cys Ser Ser Ser Thr Cys Arg Ser Ser Ile Arg Ala Gly Arg
 1 5 10 15
 Pro Thr Gly Ser Ala Thr Gly Ala Arg Ala Ala Gly Ser Ala Cys Ser
 20 25 30
 Thr Thr Ala Arg Ser Thr Ser Arg Cys Arg Ser Ser Val Pro Ala Ser
 35 40 45
 Arg Ser Thr Ala Thr Ala His Arg Ala Ser Pro Arg Cys Gly Ser Pro

50

55

60

Thr Ser Ala
65

<210> 400

<211> 120

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 33526 right: 33885 frame: -2 size(aa): 120

<400> 400

Val Gln Leu Gln Val Trp Arg Arg Ala Arg Arg Leu Gly Ser Arg Thr
1 5 10 15

Ser Ser Arg Ala Asn Ala Val Asp Arg Ala Asn Val Thr Val Ser Leu
20 25 30

Leu Ser Ala Thr Leu Arg Ser Met Asn His Gly Ser Ser Gly Gln Trp
35 40 45

Pro Val Gly Leu Gly Val Ala Pro Ser Ser Arg Tyr Arg Arg Arg Thr
50 55 60

Arg Arg Arg Ile Ser Phe Ala Pro Thr Arg Ser Ser Gln Ala Leu Thr
65 70 75 80

Arg Pro Val Gln Val Arg Pro Thr Leu Glu Thr Arg Ile Trp Gly Ser
85 90 95

Leu Gly Ala Leu Leu Leu Ile Trp Lys Pro Val His Ser Thr Gly
100 105 110

Ile Gly Ser Tyr Ser Ser Pro Ser
115 120

<210> 401

<211> 263

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 33664 right: 34452 frame: 2 size(aa): 263

<400> 401

Pro Gly Gly Gly Glu Ala Asp Pro Ala Ala Gly Pro Ala Pro Val Pro
1 5 10 15

Arg Arg Arg Gly His Ala Gln Pro Asp Arg Pro Leu Ala Gly Arg Ala
20 25 30

Val Val His Arg Ala Gln Gly Arg Arg Glu Gln Ala Asp Arg His Val
35 40 45

Arg Pro Val Asp Ser Val Arg Pro Gly Arg Arg Pro Ala Ala Gln Ala
 50 55 60
 Pro Gly Pro Ala Pro His Leu Gln Leu Asp Leu Pro Gly Arg Gly Met
 65 70 75 80
 Arg Leu His Arg Val Pro Arg Gly Arg Arg Pro Glu Ser Ala Pro Ala
 85 90 95
 Pro Thr His Gly Pro Gly Ala Pro Ser Val Leu Arg Arg Gly Gly Pro
 100 105 110
 Val Pro Gly Pro Asp Pro Arg Arg Pro Gly Gly Arg Gly Cys Ser Gly
 115 120 125
 His Ser Arg Glu Arg Leu Gln Gln Gln His Arg Gly Gln Leu Val Pro
 130 135 140
 Pro Asp Asp Gly Val Gln Pro Gln Leu Pro Leu Gln Leu Arg Leu His
 145 150 155 160
 Val Pro Asp Arg Leu Ala Pro Gly Ala Val Arg Arg Gln Pro Asp Leu
 165 170 175
 Leu Arg Gly Arg Pro Asp Pro Arg Leu Glu Pro Asp Leu Ala Glu Gly
 180 185 190
 Arg His Pro Gly Pro Lys Leu Arg Arg Leu Gly Leu Leu Arg Asp Arg
 195 200 205
 Ala Val Ala Val Gln Ser Gly Gln Pro Gly Asp Arg Pro Gly Glu Pro
 210 215 220
 Gln Leu Cys Pro Val Gly Pro Gly Gly Cys Pro Gly Arg Ala Arg Val
 225 230 235 240
 Glu Ala Gly His Gly Pro Val Ala Gln Gly Gly Gly Arg Arg His Pro
 245 250 255
 Gly Pro Pro Gly Pro Val Gln
 260

<210> 402

<211> 100

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 33798 right: 34097 frame: 1 size(aa): 100

<400> 402

Pro Ser Arg Ser Pro Cys Arg Gln Arg Ser Pro Trp Thr Thr Ser Gly
 1 5 10 15
 Cys Pro Ser Ala Trp Pro Cys Ala Thr Pro Ala Ala Gly Pro Thr Gly
 20 25 30

Ala Arg Asp Ala Ala Thr Pro Gly Thr Pro Trp Pro Thr Pro Gly Ile
35 40 45
Ser Pro Cys Pro His Pro Trp Thr Arg Arg Ser Lys Arg Ser Thr Thr
50 55 60
Arg Trp Pro Cys Ser Gly Pro Arg Pro Pro Ser Ser Arg Arg Pro Arg
65 70 75 80
Leu Gln Trp Pro Phe Lys Arg Thr Pro Thr Thr Thr Ala Ser Arg Thr
85 90 95
Ala Gly Pro Ala
100

<210> 403
<211> 112
<212> PRT
<213> Cyanophage S-2L
<220>
<221> misc_feature
<223> New ORF = left: 33804 right: 34139 frame: -1 size(aa): 112

<400> 403

Arg Arg Ser Cys Arg Gly Ser Cys Gly Cys Thr Pro Ser Ser Gly Gly
1 5 10 15
Thr Ser Cys Pro Arg Cys Cys Cys Cys Arg Arg Ser Leu Glu Trp Pro
20 25 30
Leu Gln Pro Arg Pro Pro Gly Arg Arg Gly Ser Gly Pro Gly Thr Gly
35 40 45
Pro Pro Arg Arg Arg Thr Leu Gly Ala Pro Gly Pro Trp Val Gly Ala
50 55 60
Gly Ala Asp Ser Gly Arg Arg Pro Arg Gly Thr Arg Cys Ser Arg Ile
65 70 75 80
Pro Arg Pro Gly Arg Ser Ser Cys Arg Cys Gly Ala Gly Pro Gly Ala
85 90 95
Trp Ala Ala Gly Arg Arg Pro Gly Arg Thr Leu Ser Thr Gly Arg Thr
100 105 110

<210> 404
<211> 91
<212> PRT
<213> Cyanophage S-2L
<220>
<221> misc_feature
<223> New ORF = left: 34221 right: 34493 frame: 1 size(aa): 91

<400> 404

Thr Arg Pro Gly Gly Gly Ala Pro Ser Gly Pro Lys Thr Ser Thr Ala

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1 5 10 15

Arg Pro Thr Thr Arg Ser Ser Ser Gly Ser Ser Ile Arg Ala Thr Gly
20 25 30

Arg Pro Pro Trp Arg Thr Ser Thr Leu Pro Gly Arg Pro Trp Arg Leu
35 40 45

Pro Gly Pro Cys Ser Ser Arg Gly Gly Pro Arg Pro Cys Arg Ser Arg
50 55 60

Arg Arg Pro Thr Pro Ser Gly Thr Pro Gly Thr Ser Ala Val Arg Arg
65 70 75 80

Ser Pro Ala Ala Ala Ser Gly Ser Ser Ile Arg
85 90

<210> 405

<211> 95

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 34279 right: 34563 frame: -2 size(aa): 95

<400> 405

Cys Gly Lys Asp His Pro Ile Trp Ser Pro Gly Lys Ala Asp Val Gly
1 5 10 15

Asn Gly Asn Val Ala Pro Val Ser Gly Ser Lys Asn Arg Arg Arg Gln
20 25 30

Pro Ala Ile Val Leu Leu His Trp Ser Arg Gly Ser Arg Met Ala Ser
35 40 45

Ala Ala Ala Leu Ser Asp Arg Ala Val Ala Arg Leu Asp Ser Ser Thr
50 55 60

Ala Arg Ala Ala Ala Arg Ala Asp Arg Ala Glu Leu Arg Phe Ala Arg
65 70 75 80

Ala Val Ala Arg Leu Pro Gly Leu Asn Cys His Cys Ser Ile Ser
85 90 95

<210> 406

<211> 271

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 34456 right: 35268 frame: 2 size(aa): 271

<400> 406

Asp Asp Arg Arg Leu Pro Pro Pro Val Leu Arg Ser Ala Asp Gly Arg
1 5 10 15

Tyr Ile Ala Val Ala Asn Ile Gly Leu Ser Arg Ala Pro Asp Arg Val
20 25 30

Ile Leu Thr Ala Leu Gln Lys Asn Asp Ile Arg Met Phe Ser Arg Gly
35 40 45

Gly Leu Val Gln Glu Ala Cys Gly Phe Val Leu Gly Asp Gly Arg Val
50 55 60

Val Arg Cys Leu Asn Thr His Pro Glu Pro Glu Asn Ala Phe Gln Ile
65 70 75 80

Asp Pro Glu Ala Tyr Ala Arg Ala Asp Gly Glu His Gly Val Thr Ala
85 90 95

Val Trp His Ser His Ala Arg Leu Asp Gly Phe Ser Pro Glu Asp Gln
100 105 110

Ala Ala Ile Arg Ala Asp Gly Glu Leu Pro Trp Ile Val Tyr Cys Leu
115 120 125

Arg Thr Asp Glu Phe His Val Val Asp Pro Leu Asp His Gly Pro Leu
130 135 140

Val Gly Arg Ser Phe Cys Tyr Gly Ile Leu Asp Cys Tyr Ser Leu Val
145 150 155 160

Arg Asp Ala Leu Glu Glu Arg His Gly Val Ala Phe Pro Glu Trp His
165 170 175

Arg Gly Asn Trp Gly Glu Trp Gly Arg Pro Asp Phe Thr Val Phe Asp
180 185 190

Met Gln Ala Ser Glu Phe Cys Arg Arg Val Gly Arg Glu Arg Leu Leu
195 200 205

Pro Gly Asp Ile Val Phe Met Gly Lys Asp His Thr Ser His Ile Gly
210 215 220

Ile Leu Glu Asp Ser Asp Arg Met Leu His His Leu Ala Gly Arg Arg
225 230 235 240

Ser Arg Val Glu Tyr Tyr Gly Glu Trp Trp Gln Ala Arg Thr Arg Ser
245 250 255

Ile Trp Arg Pro Ala Gly Cys Gln Pro Arg Trp Ala Ala Val Gly
260 265 270

<210> 407

<211> 338

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 34497 right: 35510 frame: 1 size(aa): 338

<400> 407

Arg Ala Leu His Cys Arg Cys Gln His Arg Pro Phe Gln Gly Ser Arg
 1 5 10 15
 Ser Gly Asp Pro Tyr Arg Thr Thr Glu Glu Arg His Pro Asp Val Gln
 20 25 30
 Pro Arg Trp Pro Arg Pro Gly Gly Leu Trp Leu Arg Pro Gly Arg Arg
 35 40 45
 Pro Gly Gly Pro Val Pro Gln His Pro Pro Arg Ala Gly Glu Arg Phe
 50 55 60
 Pro Asp Arg Pro Gly Gly Leu Arg Pro Gly Arg Arg Gly Ala Trp Gly
 65 70 75 80
 His Arg Arg Leu Ala Gln Pro Arg Pro Ala Arg Trp Val Gln Pro Gly
 85 90 95
 Gly Pro Gly Arg His Pro Gly Arg Arg Arg Ala Pro Leu Asp Arg Leu
 100 105 110
 Leu Pro Ala His Arg Arg Val Ser Arg Arg Gly Pro Pro Arg Pro Arg
 115 120 125
 Ala Pro Gly Arg Ala Leu Val Leu Leu Arg His Pro Arg Leu Leu Gln
 130 135 140
 Pro Gly Ala Gly Arg Pro Gly Gly Ala Pro Trp Gly Gly Leu Pro Arg
 145 150 155 160
 Val Ala Pro Gly Gln Leu Gly Arg Val Gly Ala Pro Arg Leu His Arg
 165 170 175
 Val Arg His Ala Gly Gln Arg Val Leu Ser Ala Gly Arg Pro Gly Ala
 180 185 190
 Ala Ala Ala Arg Gly His Arg Leu His Gly Gln Gly Pro His Leu Ala
 195 200 205
 His Arg Asp Pro Arg Gly Gln Arg Pro His Ala Pro Pro Pro Gly Arg
 210 215 220
 Gln Ala Glu Pro Gly Arg Val Leu Arg Arg Val Val Ala Gly Pro Asp
 225 230 235 240
 Pro Phe Asp Leu Ala Ala Gly Gly Met Pro Ala Gln Val Gly Ser Arg
 245 250 255
 Arg Ile Gly Pro Gln Ser Arg Gly Ala Ala Pro Met Ser Ile Thr Asn
 260 265 270
 Asp Glu Leu His Thr Arg Phe Thr Tyr His Pro Val Lys Glu Gly Gln
 275 280 285
 Thr Glu Val Tyr Gln Gln Ile Arg His Lys Ala Arg Glu Leu Ala Glu
 290 295 300
 Leu Met Leu His Leu Val Pro Glu Gly Arg Glu Gln Ser Thr Ala Leu
 305 310 315 320
 Thr Lys Val Glu Glu Ala Cys Phe Trp Ala Asn Ala Gly Val Ala Arg

325

330

335

Arg Thr

<210> 408

<211> 67

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 34506 right: 34706 frame: -1 size(aa): 67

<400> 408

Ala Ser Gly Ser Ile Trp Lys Ala Phe Ser Gly Ser Gly Trp Val Leu
1 5 10 15

Arg His Arg Thr Thr Arg Pro Ser Pro Arg Thr Lys Pro Gln Ala Ser
20 25 30

Trp Thr Arg Pro Pro Arg Leu Asn Ile Arg Met Ser Phe Phe Cys Ser
35 40 45

Ala Val Arg Ile Thr Arg Ser Gly Ala Leu Glu Arg Pro Met Leu Ala
50 55 60

Thr Ala Met
65

<210> 409

<211> 106

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 34553 right: 34870 frame: 3 size(aa): 106

<400> 409

Ser Leu Pro His Tyr Arg Arg Thr Thr Ser Gly Cys Ser Ala Glu Val
1 5 10 15

Ala Ser Ser Arg Arg Pro Val Ala Ser Ser Trp Ala Thr Ala Gly Trp
20 25 30

Ser Gly Ala Ser Thr Pro Thr Pro Ser Arg Arg Thr Leu Ser Arg Ser
35 40 45

Thr Arg Arg Pro Thr Pro Gly Gln Thr Gly Ser Met Gly Ser Pro Pro
50 55 60

Ser Gly Thr Ala Thr Pro Gly Ser Met Gly Ser Ala Arg Arg Thr Arg
65 70 75 80

Pro Pro Ser Gly Pro Thr Ala Ser Ser Pro Gly Ser Ser Thr Ala Cys
85 90 95

Ala Pro Thr Ser Phe Thr Ser Trp Thr Pro
100 105

<210> 410

<211> 101

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 34567 right: 34869 frame: -2 size(aa): 101

<400> 410

Gly Val His Asp Val Lys Leu Val Gly Ala Gln Ala Val Asp Asp Pro
1 5 10 15

Gly Glu Leu Ala Val Gly Pro Asp Gly Gly Leu Val Leu Arg Ala Glu
20 25 30

Pro Ile Glu Pro Gly Val Ala Val Pro Asp Gly Gly Asp Pro Met Leu
35 40 45

Pro Val Cys Pro Gly Val Gly Leu Arg Val Asp Leu Glu Ser Val Leu
50 55 60

Arg Leu Gly Val Gly Val Glu Ala Pro Asp His Pro Ala Val Ala Gln
65 70 75 80

Asp Glu Ala Thr Gly Leu Leu Asp Glu Ala Thr Ser Ala Glu His Pro
85 90 95

Asp Val Val Leu Leu
100

<210> 411

<211> 80

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 34778 right: 35017 frame: -3 size(aa): 80

<400> 411

Ser Arg Gly Ala Pro Thr Arg Pro Ser Cys Pro Gly Ala Thr Leu Gly
1 5 10 15

Arg Pro Pro His Gly Ala Pro Pro Gly Arg Pro Ala Pro Gly Cys Ser
20 25 30

Ser Arg Gly Cys Arg Ser Arg Thr Ser Ala Arg Pro Gly Ala Arg Gly
35 40 45

Leu Gly Gly Pro Arg Arg Glu Thr Arg Arg Cys Ala Gly Ser Arg Arg
50 55 60

Ser Arg Gly Ala Arg Arg Arg Pro Gly Trp Arg Pro Gly Pro Pro Gly
65 70 75 80

<210> 412

<211> 144

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 34873 right: 35304 frame: -2 size(aa): 144

<400> 412

Ser Thr Trp Ala Gln Arg Leu Ala Thr Val Ala Leu Ser Tyr Gly Cys
1 5 10 15

Pro Pro Gly Leu Ala Ser Arg Arg Pro Pro Asp Arg Thr Gly Pro Gly
20 25 30

Leu Pro Pro Leu Ala Val Val Leu Asp Pro Ala Pro Pro Ala Gly Gln
35 40 45

Val Val Glu His Ala Val Ala Val Leu Glu Asp Pro Asp Val Arg Gly
50 55 60

Val Val Leu Ala His Glu Asp Asp Val Pro Gly Gln Gln Pro Leu Pro
65 70 75 80

Ala Tyr Pro Pro Thr Glu Leu Ala Gly Leu His Val Glu His Gly Glu
85 90 95

Val Gly Ala Pro Pro Leu Ala Pro Val Ala Pro Val Pro Leu Trp Glu
100 105 110

Gly His Pro Met Ala Leu Leu Gln Gly Val Pro His Gln Ala Val Ala
115 120 125

Val Glu Asp Ala Val Ala Glu Arg Ala Pro Asp Gln Gly Pro Val Val
130 135 140

<210> 413

<211> 62

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 34874 right: 35059 frame: 3 size(aa): 62

<400> 413

Thr Thr Gly Pro Trp Ser Gly Ala Arg Ser Ala Thr Ala Ser Ser Thr
1 5 10 15

Ala Thr Ala Trp Cys Gly Thr Pro Trp Arg Ser Ala Met Gly Trp Pro
20 25 30

Ser Gln Ser Gly Thr Gly Ala Thr Gly Ala Ser Gly Gly Ala Pro Thr

35 40 45
 Ser Pro Cys Ser Thr Cys Arg Pro Ala Ser Ser Val Gly Gly
 50 55 60

<210> 414
 <211> 88
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 34926 right: 35189 frame: -1 size(aa): 88

<400> 414

Tyr Ser Thr Arg Leu Arg Leu Pro Ala Arg Trp Trp Ser Met Arg Ser
 1 5 10 15
 Leu Ser Ser Arg Ile Pro Met Cys Glu Val Trp Ser Leu Pro Met Lys
 20 25 30
 Thr Met Ser Pro Gly Ser Ser Arg Ser Arg Pro Thr Arg Arg Gln Asn
 35 40 45
 Ser Leu Ala Cys Met Ser Asn Thr Val Lys Ser Gly Arg Pro His Ser
 50 55 60
 Pro Gln Leu Pro Arg Cys His Ser Gly Lys Ala Thr Pro Trp Arg Ser
 65 70 75 80
 Ser Arg Ala Ser Arg Thr Arg Leu
 85

<210> 415
 <211> 67
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 35063 right: 35263 frame: 3 size(aa): 67

<400> 415

Ala Gly Ser Gly Cys Cys Pro Gly Thr Ser Ser Ser Trp Ala Arg Thr
 1 5 10 15
 Thr Pro Arg Thr Ser Gly Ser Ser Arg Thr Ala Thr Ala Cys Ser Thr
 20 25 30
 Thr Trp Pro Ala Gly Gly Ala Gly Ser Ser Thr Thr Ala Ser Gly Gly
 35 40 45
 Arg Pro Gly Pro Val Arg Ser Gly Gly Arg Arg Asp Ala Ser Pro Gly
 50 55 60
 Gly Gln Pro
 65

<210> 416
<211> 79
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 35099 right: 35335 frame: -3 size(aa): 79

<400> 416

Val Asn Arg Val Trp Ser Ser Ser Leu Val Ile Asp Met Gly Ala Ala
1 5 10 15
Pro Arg Asp Cys Gly Pro Ile Leu Arg Leu Pro Thr Trp Ala Gly Ile
20 25 30
Pro Pro Ala Ala Arg Ser Asn Gly Ser Gly Pro Ala Thr Thr Arg Arg
35 40 45
Ser Thr Arg Pro Gly Ser Ala Cys Arg Pro Gly Gly Gly Ala Cys Gly
50 55 60
Arg Cys Pro Arg Gly Ser Arg Cys Ala Arg Cys Gly Pro Cys Pro
65 70 75

<210> 417
<211> 112
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 35193 right: 35528 frame: -1 size(aa): 112

<400> 417

Arg Trp Phe Ile Cys Ser Gly Ala Ala Gly Asp Ala Gly Ile Gly Pro
1 5 10 15
Glu Ala Gly Leu Leu Asp Leu Gly Gln Gly Ser Arg Leu Leu Pro Pro
20 25 30
Leu Gly His Gln Val Glu His Glu Leu Gly Glu Leu Pro Gly Leu Val
35 40 45
Pro Asp Leu Leu Val Asp Phe Arg Leu Pro Leu Leu Asp Gly Val Val
50 55 60
Gly Glu Pro Gly Val Glu Leu Val Val Gly Asp Arg His Gly Arg Ser
65 70 75 80
Ala Ser Arg Leu Trp Pro Tyr Pro Thr Ala Ala His Leu Gly Trp His
85 90 95
Pro Ala Gly Arg Gln Ile Glu Arg Val Arg Ala Cys His His Ser Pro
100 105 110

<210> 418
 <211> 84
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 35267 right: 35518 frame: 3 size(aa): 84

<400> 418

Asp	Arg	Ala	Thr	Val	Ala	Arg	Arg	Cys	Ala	His	Val	Asp	His	Gln	Arg
1				5				10						15	
Arg	Ala	Pro	His	Pro	Val	His	Leu	Pro	Pro	Arg	Gln	Gly	Gly	Ala	Asp
			20				25						30		
Gly	Ser	Leu	Pro	Ala	Asp	Pro	Ala	Gln	Gly	Pro	Gly	Ala	Arg	Arg	Ala
		35					40					45			
His	Ala	Pro	Pro	Gly	Ala	Arg	Gly	Ala	Gly	Ala	Val	Asp	Cys	Pro	Asp
	50					55					60				
Gln	Gly	Arg	Gly	Gly	Leu	Leu	Leu	Gly	Gln	Cys	Arg	Arg	Arg	Pro	Pro
65					70				75					80	
His	Leu	Ser	Arg												

<210> 419
 <211> 61
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 35272 right: 35454 frame: 2 size(aa): 61

<400> 419

Gly	His	Ser	Arg	Glu	Ala	Leu	Arg	Pro	Cys	Arg	Ser	Pro	Thr	Thr	Ser
1				5				10						15	
Ser	Thr	Pro	Gly	Ser	Pro	Thr	Thr	Pro	Ser	Arg	Arg	Gly	Arg	Arg	Lys
		20					25					30			
Ser	Thr	Ser	Arg	Ser	Gly	Thr	Arg	Pro	Gly	Ser	Ser	Pro	Ser	Ser	Cys
		35				40					45				
Ser	Thr	Trp	Cys	Pro	Arg	Gly	Gly	Ser	Ser	Arg	Leu	Pro			
	50					55				60					

<210> 420
 <211> 54
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature

<223> New ORF = left: 35372 right: 35533 frame: -3 size(aa): 54

<400> 420

Arg Ser Ala Gly Ser Ser Ala Gln Val Arg Arg Ala Thr Pro Ala Leu
1 5 10 15

Ala Gln Lys Gln Ala Ser Ser Thr Leu Val Arg Ala Val Asp Cys Ser
20 25 30

Arg Pro Ser Gly Thr Arg Trp Ser Met Ser Ser Ala Ser Ser Arg Ala
35 40 45

Leu Cys Arg Ile Cys Trp
50

<210> 421

<211> 253

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 35413 right: 36171 frame: -2 size(aa): 253

<400> 421

Ala Ser Tyr Glu Leu Pro Arg Asn Glu Ala Gln Glu Thr Pro Gly Ala
1 5 10 15

Ala His Val Asp Arg Ala Ala Asp Arg Gln Val Ala Gln Gly Glu Ala
20 25 30

Asp His Glu Arg Val Leu Asp Pro Pro Glu Ala Val Asp His Arg Asp
35 40 45

Arg Ala Pro Leu Ala Pro Arg Ala Gly Gly Val Ala Val Glu Ala Arg
50 55 60

Leu Gln Leu Leu Gly Val Gly Ile Asp Arg Arg Pro Gly Arg Pro Gly
65 70 75 80

Glu Glu Ala Ser Asp Ala Pro Gln His Gln Gly Thr Ala Gly Gln Gln
85 90 95

Gln Ala Arg Gly Arg Gln Ala Gln Glu Ala Asp Ala Pro Gly Glu Arg
100 105 110

Ala Gln Gly Asp Lys Arg Asp Ala Gly Gln Asp Pro Pro Glu Ala Ala
115 120 125

Thr Ala Gly Gln Asp Arg Gly Lys His Gln Arg Leu Pro Gly Asp Ala
130 135 140

Arg Leu Gly Pro Val Leu Val Gln Ala Pro Gly Ile Val Arg His Asp
145 150 155 160

Pro Pro Ala Asp Ala Pro Pro Gly Leu Leu Asp His Pro Gly Pro Glu
165 170 175

Gly Arg Val Gln Gly Ala Glu Gly Pro Asp Arg Leu Gly Arg Arg Leu
180 185 190

Asn Asp Lys Pro Val Asp Ala Ala Glu Leu Ser Ala Glu Gly Ala Gln
195 200 205

Glu Leu Asp Arg Asp Val Ala Leu Val His Leu Leu Arg Cys Gly Gly
210 215 220

Arg Arg Arg His Trp Pro Arg Ser Arg Pro Pro Arg Pro Trp Ser Gly
225 230 235 240

Gln Ser Thr Ala Pro Ala Pro Arg Ala Pro Gly Gly Ala
245 250

<210> 422

<211> 236

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 35458 right: 36165 frame: 2 size(aa): 236

<400> 422

Pro Arg Ser Arg Arg Pro Ala Ser Gly Pro Met Pro Ala Ser Pro Ala
1 5 10 15

Ala Pro Glu Gln Met Asn Gln Arg Tyr Val Thr Ile Lys Leu Leu Gly
20 25 30

Ala Phe Gly Arg Glu Phe Gly Arg Ile His Arg Leu Val Val Glu Thr
35 40 45

Pro Ala Glu Ala Val Arg Ala Leu Cys Thr Leu Tyr Pro Ala Phe Arg
50 55 60

Pro Arg Val Ile Glu Gln Ala Gly Arg Gly Ile Gly Trp Arg Ile Val
65 70 75 80

Thr Asp Asp Pro Arg Gly Leu Asp Glu Asp Arg Ala Gln Ala Gly Ile
85 90 95

Pro Gly Gln Thr Leu Val Phe Ala Pro Ile Leu Thr Gly Arg Gly Gly
100 105 110

Phe Gly Arg Ile Leu Ala Gly Val Ala Phe Ile Ala Leu Gly Ala Phe
115 120 125

Thr Gly Gly Ile Gly Phe Leu Gly Leu Ser Ser Ser Ser Leu Leu Leu
130 135 140

Thr Gly Gly Ala Leu Val Leu Gly Gly Val Ala Gly Leu Leu Thr Arg
145 150 155 160

Thr Pro Arg Ala Pro Val Asp Ala Asp Thr Lys Gln Leu Glu Ser Ser
165 170 175

Leu Tyr Ser Asn Ala Ala Gly Thr Gly Gly Gln Gly Ser Pro Val Pro
180 185 190

Val Ile Tyr Gly Leu Arg Arg Val Glu Asn Pro Leu Val Ile Ser Phe
195 200 205

Ser Leu Gly Asn Leu Pro Ile Ser Arg Pro Ile Asn Val Ser Gly Ser
210 215 220

Arg Gly Leu Leu Gly Leu Val Ala Gly Gln Phe Val
225 230 235

<210> 423

<211> 152

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 35532 right: 35987 frame: -1 size(aa): 152

<400> 423

Arg Leu Asp Ser Ser Cys Leu Val Ser Ala Ser Thr Gly Ala Arg Gly
1 5 10 15

Val Leu Val Arg Arg Pro Ala Thr Pro Pro Ser Thr Arg Ala Pro Pro
20 25 30

Val Ser Ser Arg Leu Glu Asp Asp Arg Pro Arg Lys Pro Met Pro Pro
35 40 45

Val Asn Ala Pro Arg Ala Ile Asn Ala Thr Pro Ala Arg Ile Arg Pro
50 55 60

Lys Pro Pro Arg Pro Val Arg Ile Gly Ala Asn Thr Ser Val Cys Pro
65 70 75 80

Gly Met Pro Ala Trp Ala Arg Ser Ser Ser Arg Pro Arg Gly Ser Ser
85 90 95

Val Thr Ile Arg Gln Pro Met Pro Arg Pro Ala Cys Ser Ile Thr Arg
100 105 110

Gly Arg Lys Ala Gly Tyr Arg Val Gln Arg Ala Arg Thr Ala Ser Ala
115 120 125

Gly Val Ser Thr Thr Ser Arg Trp Met Arg Pro Asn Ser Arg Pro Lys
130 135 140

Ala Pro Arg Ser Leu Ile Val Thr
145 150

<210> 424

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 35543 right: 35821 frame: -3 size(aa): 93

<400> 424

Thr Arg Arg Arg Pro Gly Ser Ala Arg Ser Arg His Gly Arg Ser Gly
1 5 10 15

Ser Gly Gln Thr Pro Ala Ser Ala Arg Gly Cys Pro Pro Gly Pro Gly
20 25 30

Pro Arg Pro Gly Pro Gly Asp Arg Pro Ser Arg Ser Ala Ser Arg Cys
35 40 45

Pro Ala Arg Pro Ala Arg Ser Pro Gly Ala Gly Arg Pro Gly Thr Gly
50 55 60

Cys Arg Gly Pro Gly Pro Pro Arg Pro Ala Ser Gln Arg Gln Ala Gly
65 70 75 80

Gly Cys Gly Arg Thr Leu Gly Arg Arg Arg Pro Gly Ala
85 90

<210> 425

<211> 1456

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 35598 right: 39965 frame: 1 size(aa): 1456

<400> 425

Asp Ala Gly Arg Gly Gly Pro Gly Pro Leu His Pro Val Pro Gly Leu
1 5 10 15

Pro Ala Pro Gly Asp Arg Ala Gly Arg Ala Gly His Arg Leu Ala Asp
20 25 30

Arg Asp Gly Arg Ser Pro Gly Pro Gly Arg Gly Pro Gly Pro Gly Gly
35 40 45

His Pro Arg Ala Asp Ala Gly Val Cys Pro Asp Pro Asp Arg Pro Trp
50 55 60

Arg Leu Arg Ala Asp Pro Gly Arg Arg Arg Val Tyr Arg Pro Gly Arg
65 70 75 80

Val His Arg Gly His Arg Leu Pro Gly Pro Val Val Leu Glu Pro Ala
85 90 95

Ala Asp Arg Arg Cys Pro Gly Ala Gly Gly Arg Arg Trp Pro Pro His
100 105 110

Gln Asp Ala Pro Gly Ala Gly Arg Cys Arg His Gln Ala Ala Gly Val
115 120 125

Glu Pro Leu Gln Gln Arg Arg Arg His Gly Gly Pro Gly Glu Pro Gly
130 135 140

Pro Gly Asp Leu Arg Pro Pro Ala Gly Arg Glu Pro Ala Arg Asp Gln
 145 150 155 160
 Leu Leu Leu Gly Gln Pro Ala Asp Gln Pro Pro Asp Gln Arg Glu Arg
 165 170 175
 Leu Pro Gly Ser Pro Gly Pro Arg Cys Gly Ala Val Arg Met Lys Leu
 180 185 190
 Ile Ser Gly Ala Gly Gly Ile Gly Gly Gly Gly Thr Lys Lys Pro Arg
 195 200 205
 Ala Pro Ile Thr Ser Pro Asp Ser Ala Phe Leu Arg Ser Ile Ser Phe
 210 215 220
 Ala Gln Met Gln Phe Leu Leu Cys Glu Gly Pro Ile Trp Gly Pro Lys
 225 230 235 240
 Glu Gly Arg Ser Trp Gly Gly Leu Leu Ala Ser Thr Tyr Leu Asp Asp
 245 250 255
 Thr Pro Leu Ser Val Arg Gly Leu Gly Gly Thr Val Pro Val Glu Asp
 260 265 270
 Leu Val Leu Ser Tyr Gly Thr Phe Asp Gln Thr Ala Val Pro Gly Tyr
 275 280 285
 Gly Val Gln Trp Asn Thr Ile Gly Val Gly Gln Ser Val Lys Ala Ser
 290 295 300
 Phe Pro Val Phe Ala Thr Ala Met Pro Ser Asp Pro Thr Thr Gln His
 305 310 315 320
 Arg Ala Arg Val Val Leu Thr Trp Glu Ala Leu Leu Val Ala Phe Lys
 325 330 335
 Gln Thr Gly Asp Val Val Glu Ala Gln Val Pro Tyr Leu Ile Asp Tyr
 340 345 350
 Thr Asp Ala Asn Gly Val Val Arg Leu Val Phe Ala Gly Phe Thr Phe
 355 360 365
 Gly Lys Phe Ser Gly Pro Phe Gln Arg Glu His Glu Trp Asp Leu Ala
 370 375 380
 Gly Pro Gly Pro Trp Val Val Arg Val Met Arg Met Ala Ala Asp Asp
 385 390 395 400
 Asp Ala Leu Glu Thr Pro Ile Ala Ser Phe Arg Ser Ala Phe Ser Phe
 405 410 415
 Thr Asn Leu Ser Phe Gly Pro Val Leu Ser Leu Gly Arg Arg Tyr Ser
 420 425 430
 Ala Thr Leu Thr Leu Ala Ala Arg Ala Asp Arg Tyr Ser Asn Leu Pro
 435 440 445
 Ala Val Ala Ile Asp Leu Tyr Gly Lys Ile Cys Lys Val Pro Thr Asn
 450 455 460

292/359

Tyr 465	Asp	Pro	Trp	Ala	Gly 470	Thr	Tyr	Ser	Gly	Val 475	Trp	Asp	Gly	Ser	Phe 480
Lys	Glu	Asp	Trp	Thr 485	Asp	Asn	Pro	Ala	Trp 490	Cys	Phe	Tyr	Asp	Met 495	Val
Thr	Asn	Pro	Arg 500	Tyr	Gly	Leu	Gly	Glu 505	Ser	Ile	Asp	Pro	Val 510	Leu	Ile
Asp	Lys	Trp 515	Ser	Leu	Tyr	Ser	Ile 520	Gly	Gln	Tyr	Cys	Asp 525	Gly	Leu	Val
Pro	Ala 530	Val	Gly	Gly	Gly	Leu 535	Glu	Arg	Arg	Phe	Arg 540	Cys	Asn	Leu	Ile
Leu 545	Ala	Ala	Gln	Asn	Asp 550	Ala	Trp	Val	Val	Leu 555	Gln	Gln	Leu	Ala	Ser 560
Ile	Phe	Arg	Gly	Gln 565	Ile	Phe	Trp	Ser	Ala 570	Gly	Leu	Val	Val	Ser 575	Thr
Gln	Asp	Ala	Pro 580	Gly	Asp	Phe	Leu	Tyr 585	Thr	Phe	Asn	Pro	Ser 590	Asn	Val
Glu	Gln	Thr 595	Val	Asp	Asp	Ser	Gly 600	Ala	Val	Val	Gln	Pro 605	Cys	Phe	Glu
Tyr	Glu 610	Gly	Thr	Ala	Lys	Arg 615	Thr	Arg	His	Thr	Val 620	Cys	Leu	Val	Ser
Trp 625	Asp	Asp	Pro	Ala	Asn 630	Ala	Tyr	Gln	Pro	Arg 635	Val	Glu	Tyr	Ile	Ala 640
Asp	Ser	Asp	Ala	Leu 645	Ala	Arg	Leu	Gly	Tyr 650	Arg	Pro	Leu	Glu	Leu 655	Arg
Leu	Asn	Gly	Ile 660	Thr	Thr	Arg	Gly	Gln 665	Ala	Leu	Arg	Thr	Ala 670	Gln	Trp
Ala	Leu	Leu 675	Ser	Glu	Ala	Ile	Leu 680	Asp	Asp	Thr	Val	Thr 685	Phe	Lys	Val
Gly	Ala 690	Ile	Gly	Met	Ala	Leu 695	Arg	Pro	Gly	Asp	Leu 700	Val	Lys	Val	Met
Asp 705	Pro	Asp	Lys	Gly	Gly 710	Val	Arg	Phe	Gly	Gly 715	Arg	Val	Val	Ala	Gln 720
Asp	Gly	Asp	Thr	Ile 725	Thr	Leu	Asp	Ala	Ala 730	Pro	Pro	Thr	Pro	Leu 735	Ala
Gly	Trp	Ala	Gly 740	Gly	Leu	Phe	Tyr	Trp 745	Gln	Ser	Gly	Ala	Gly 750	Leu	Pro
Arg	Val 755	Asn	Val	Ala	Gly	Val	Ser 760	Gly	Ala	Val	Val	Thr 765	Val	Ser	Gly
Trp 770	Gly	Asp	Asp	Ser	Arg	Pro 775	Thr	Pro	Gly	Met	Pro 780	Trp	Leu	Leu	Glu
Val	Pro	Asn	Leu	Glu	Ala	Gln	Pro	Phe	Arg	Ile	Leu	Gly	Ile	Glu	Glu

785	790	795	800
Leu Gly Gln Asn Arg Tyr Ala Val Thr Ala Leu Arg Tyr Arg Ser Asp	805	810	815
Ile Tyr Asp Arg Val Asp Phe Asp Thr Pro Leu Ser Asp Asp Glu Asp	820	825	830
Tyr Leu Phe Lys Leu Leu Asp Pro Leu Pro Pro Thr Ile Leu Asn Ala	835	840	845
Gln Ile Val Trp Asp Asn Ser Gln Ala Lys Leu Glu Val Asn Trp Arg	850	855	860
Pro Gln Asp Arg Val Phe Val Asp Gly Gly Phe Asp Leu Ser Thr Ser	865	870	875
Tyr His Arg Leu Gln Tyr Gln Arg Gly Glu Val Gly Ala Gly Gly Glu	885	890	895
Val Thr Trp Thr Asn Gln Trp Ala Glu Val Asp Arg Gln Thr Asp Thr	900	905	910
Thr Glu Thr Ile Pro Leu Val Gly Tyr Gln Ala Gln Thr Arg Tyr Lys	915	920	925
Val Arg Met Ala Ser Val Gly Lys Ala Gly Ala Glu Ser Leu Trp Ser	930	935	940
Ala Glu Leu Glu Ala Thr Pro Leu Glu Val Trp Phe Pro Ile Pro Asp	945	950	955
Phe Glu Ser Ile Val Pro His Pro Gly Gly Glu Thr Gly Pro Ala Gly	965	970	975
Val Leu Ser His Thr Asn Leu Ala Thr Gly Gly His Leu Trp Thr Trp	980	985	990
Lys Ile Phe Thr Gln Val Pro Pro Tyr Ala Arg Ser Ile Glu Val Trp	995	1000	1005
Gly Arg Pro Val Gly Val Pro Leu Pro Asp Gly Val Thr Thr Asp	1010	1015	1020
Glu Asp Gly Tyr Ile Leu Leu Gly Thr Ala Ala Pro Asn Ala Gly	1025	1030	1035
Val Glu Ala Leu Leu Pro Val Ala Ala Thr Trp Asp Val Arg Ala	1040	1045	1050
Arg Leu Thr Thr Phe Val Pro Gly Leu Glu Gly Arg Ser Phe Met	1055	1060	1065
Leu Asp Met Val Asp Arg Leu Glu Ile Val Pro Pro Thr Pro Thr	1070	1075	1080
Glu Phe Arg Leu Val Thr Glu Gln Asp Gly Gln Ser Arg Met Gly	1085	1090	1095
Ser Arg Arg Phe Ser Trp Leu Met Pro Asp Pro Pro Pro Phe Ala	1100	1105	1110

Glu	Arg	Trp	Gly	Gly	Gly	Leu	Val	Ser	Asp	Ile	Ala	Gly	Phe	Glu
1115						1120					1125			
Val	Arg	Tyr	Arg	Ser	Gly	Val	Asp	Val	Gly	Trp	Glu	Gly	Ala	Phe
1130						1135					1140			
Pro	Leu	Leu	Ser	Asp	Gly	Val	Pro	Gly	Asp	Thr	Phe	Trp	Phe	Glu
1145						1150					1155			
Thr	His	Leu	Met	Asp	Tyr	Gly	Thr	Phe	Thr	Val	Met	Leu	Arg	Ala
1160						1165					1170			
Arg	Asp	Arg	Thr	Gly	Trp	Val	Ser	Asp	Glu	Met	Ala	Val	Val	Thr
1175						1180					1185			
Val	Gly	Ile	Gly	Gln	Pro	Leu	Pro	Thr	Asn	Val	Leu	Thr	Leu	Leu
1190						1195					1200			
Asp	Leu	Ser	Leu	Glu	Gly	Trp	Pro	Gly	Asp	Leu	Ala	Asn	Gly	Thr
1205						1210					1215			
Val	Val	Gly	Ser	Thr	Ser	Pro	Leu	Phe	Tyr	Phe	Pro	Pro	Thr	Thr
1220						1225					1230			
Glu	Asp	Leu	Tyr	Glu	Ala	Pro	Leu	Glu	Glu	Ala	Ile	Tyr	Ser	Gly
1235						1240					1245			
Arg	Ser	Gly	Gly	Glu	Leu	Val	Gln	Asn	Asp	Pro	Ala	Gln	Pro	Met
1250						1255					1260			
Val	Tyr	Arg	Ala	Leu	Leu	Glu	Val	Glu	Val	Asp	Gly	Ser	Ala	Leu
1265						1270					1275			
Leu	Ile	Tyr	Thr	Glu	Ser	Asp	Thr	Gly	Ser	Tyr	Arg	Trp	Arg	Leu
1280						1285					1290			
Glu	Asp	Ile	Ser	Thr	Val	Gly	Leu	Gly	Leu	Arg	Tyr	Val	Ala	Pro
1295						1300					1305			
Thr	Thr	Asp	Pro	Met	Tyr	Asp	Val	Ala	Glu	Glu	Ala	Pro	Phe	His
1310						1315					1320			
Leu	Gly	Glu	Phe	Leu	Ser	Gly	Gly	Ala	Gly	Leu	His	Pro	Tyr	Ala
1325						1330					1335			
Pro	His	Gln	Lys	Leu	Thr	Ala	Gly	Leu	Trp	Gln	Ile	Ser	Leu	Glu
1340						1345					1350			
Ala	Ile	Ala	Ser	Thr	Thr	Asn	Val	Pro	Ala	Arg	Ile	Gln	Asp	Val
1355						1360					1365			
Asp	Val	Val	Leu	Asp	Val	Pro	Asp	Val	Val	Trp	Thr	Ile	Glu	Asp
1370						1375					1380			
Tyr	Glu	Ala	Gly	Val	Gly	Val	Thr	Ser	Val	Pro	Leu	Pro	Pro	Gly
1385						1390					1395			
Leu	Phe	Arg	Arg	Val	Lys	Ala	Val	Ser	Met	Ala	Val	Gln	Asp	Asp
1400						1405					1410			

Thr Val Ala Ala Gly Val Ala Val Gly Gly Arg Ile Val Tyr Lys
1415 1420 1425
Gly Thr Asp Arg Ile Asp Leu Arg Thr Val Asp Ala Ser Gly Ala
1430 1435 1440
Asp Thr Ala Ala Leu Val Asp Leu Ile Val Val Gly Tyr
1445 1450 1455

<210> 426

<211> 602

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 36042 right: 37847 frame: -1 size(aa): 602

<400> 426

Pro Gly Pro Arg Leu Pro Ile Glu Gln Pro Ser Arg Pro Ala Gly Glu
1 5 10 15
Gly Cys Arg Gly Cys Arg Val Glu Arg Asp Arg Val Ala Val Leu Gly
20 25 30
Asn His Pro Thr Ala Glu Ala Asp Pro Ala Leu Val Arg Val His Asp
35 40 45
Leu Asp Lys Ile Pro Arg Ala Gln Gly His Ala Asp Gly Ala His Leu
50 55 60
Glu Arg His Arg Val Val Gln Asp Arg Leu Arg Gln Glu Arg Pro Leu
65 70 75 80
Gly Arg Pro Gln Gly Leu Pro Pro Gly Gly Asp Ala Val Glu Pro Glu
85 90 95
Leu Gln Arg Pro Val Ala Lys Ala Gly Gln Gly Ile Ala Val Arg Asp
100 105 110
Val Leu His Pro Gly Leu Val Gly Val Gly Arg Val Val Pro Gly Asp
115 120 125
Gln Thr Asp Gly Val Pro Gly Ala Phe Gly Arg Ala Leu Ile Leu Glu
130 135 140
Ala Gly Leu Asp Asp Arg Ala Arg Val Val Asp Gly Leu Leu Asp Val
145 150 155 160
Gly Trp Val Glu Arg Val Gln Glu Val Pro Gly Gly Val Leu Gly Ala
165 170 175
Asp His Gln Ala Gly Thr Pro Lys Asp Leu Pro Pro Glu Asp Arg Arg
180 185 190
Gln Leu Leu Glu Asp His Pro Gly Val Val Leu Gly Gly Gln Asp Gln
195 200 205
Val Ala Pro Lys Pro Pro Leu Gln Pro Pro Ala Asp Gly Gly His Gln

210	215	220
Ala Val Ala Val Leu	Ala Asp Gly Ile Glu	Gly Pro Leu Val Asp Gln
225	230	235 240
His Arg Ile Asp	Arg Leu Ala Gln Ala Val	Pro Gly Val Arg His His
	245	250 255
Val Val Glu Ala Pro	Gly Gly Val Val Gly	Pro Val Leu Leu Glu Ala
	260	265 270
Pro Val Pro His Pro	Ala Val Gly Ala Gly	Pro Gly Val Val Val Arg
	275	280 285
Gly Tyr Leu Ala Asp	Leu Ala Val Gln Val Asp	Gly Asp Arg Arg Gln
	290	295 300
Val Gly Val Pro Val	Arg Pro Gly Gly Gln Gly	Glu Arg Gly Thr Val
	305	310 315
Pro Ala Pro Gln Arg	Gln His Arg Ala Lys Ala	Glu Ile Arg Glu Ala
	325	330 335
Glu Arg Arg Ala Glu	Arg Arg Asp Arg Arg	Phe Glu Gly Val Val Val
	340	345 350
Cys Gly His Pro His	Asp Pro Asp His Pro	Gly Pro Arg Ala Gly Gln
	355	360 365
Val Pro Phe Val Leu	Pro Leu Glu Arg Pro	Ala Glu Leu Ala Glu Gly
	370	375 380
Glu Ala Gly Glu His	Glu Ser Asp Asp Pro	Val Gly Val Gly Val Val
	385	390 395
Asp Gln Val Arg His	Leu Gly Leu Asp Asp	Val Ala Arg Leu Leu Glu
	405	410 415
Arg Asp Glu Gln Arg	Leu Pro Gly Glu Asp	His Pro Gly Pro Val Leu
	420	425 430
Gly Gly Arg Val Ala	Gly His Arg Arg Gly	Glu His Arg Glu Arg Cys
	435	440 445
Leu Asp Gly Leu Ala	Asp Pro Asp Gly Val	Pro Leu Asp Pro Val Pro
	450	455 460
Arg Asp Arg Arg Leu	Val Glu Gly Ala Val	Ala Gln His Gln Val Phe
	465	470 475
Tyr Gly His Arg Ala	Ala Gln Ala Pro Asp	Gly Gln Arg Gly Val Val
	485	490 495
Gln Val Gly Ala Gly	Gln Glu Ala Ala Pro	Ala Ala Pro Leu Leu Arg
	500	505 510
Pro Pro Asp Arg Pro	Leu Ala Gln Glu Glu	Leu His Leu Gly Glu Ala
	515	520 525
Asp Arg Ala Gln Glu	Gly Ala Val Arg Ala	Gly Asp Gly Arg Pro Gly
	530	535 540

Leu Leu Gly Pro Ala Ala Ala Asp Ala Ala Gly Ser Arg Asp Glu Leu
 545 550 555 560

His Thr Asn Cys Pro Ala Thr Arg Pro Arg Arg Pro Arg Glu Pro Leu
 565 570 575

Thr Leu Ile Gly Arg Leu Ile Gly Arg Leu Pro Lys Glu Lys Leu Ile
 580 585 590

Thr Ser Gly Phe Ser Thr Arg Arg Arg Pro
 595 600

<210> 427

<211> 79

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 36116 right: 36352 frame: -3 size(aa): 79

<400> 427

Val Leu Ala Arg Arg Pro Pro Gln Leu Arg Pro Ser Phe Gly Pro Gln
 1 5 10 15

Ile Gly Pro Ser His Arg Arg Asn Cys Ile Trp Ala Lys Leu Ile Glu
 20 25 30

Arg Arg Lys Ala Leu Ser Gly Leu Val Met Gly Ala Arg Gly Phe Leu
 35 40 45

Val Pro Pro Pro Pro Met Pro Pro Ala Pro Glu Met Ser Phe Ile Arg
 50 55 60

Thr Ala Pro Gln Arg Gly Pro Gly Asp Pro Gly Ser Arg Ser Arg
 65 70 75

<210> 428

<211> 434

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 36122 right: 37423 frame: 3 size(aa): 434

<400> 428

Ala Ala Pro Gly Val Ser Trp Ala Ser Leu Arg Gly Ser Ser Tyr Glu
 1 5 10 15

Ala His Leu Trp Ser Arg Arg His Arg Arg Arg Arg Asp Gln Glu Ala
 20 25 30

Pro Gly Ala His His Gln Pro Gly Gln Arg Leu Pro Ala Leu Asp Gln
 35 40 45

Leu Arg Pro Asp Ala Val Pro Pro Val Arg Gly Ala Asp Leu Gly Ala
 50 55 60
 Glu Gly Gly Ala Gln Leu Gly Arg Pro Pro Gly Gln His Leu Pro Gly
 65 70 75 80
 Arg His Pro Ala Val Arg Pro Gly Pro Gly Arg His Gly Ala Arg Arg
 85 90 95
 Arg Pro Gly Ala Glu Leu Arg His Leu Arg Pro Asp Gly Gly Pro Gly
 100 105 110
 Val Arg Gly Pro Val Glu His His Arg Gly Arg Pro Val Arg Gln Gly
 115 120 125
 Ile Val Pro Gly Val Arg His Gly Asp Ala Gln Arg Pro Asp His Pro
 130 135 140
 Ala Pro Gly Pro Gly Gly Pro His Leu Gly Gly Ala Ala Arg Arg Val
 145 150 155 160
 Gln Ala Asp Gly Arg Arg Arg Arg Gly Pro Gly Ala Val Pro Asp Arg
 165 170 175
 Leu His Arg Arg Gln Arg Gly Arg Pro Thr Arg Val Arg Arg Leu His
 180 185 190
 Leu Arg Gln Val Gln Arg Ala Val Pro Ala Gly Ala Arg Met Gly Pro
 195 200 205
 Gly Arg Pro Gly Ala Leu Gly Gly Pro Gly His Ala Asp Gly Arg Arg
 210 215 220
 Arg Arg Arg Pro Arg Asn Ala Asp Arg Val Val Pro Leu Gly Val Gln
 225 230 235 240
 Leu His Glu Ser Gln Leu Trp Pro Gly Ala Val Ser Gly Ala Pro Val
 245 250 255
 Gln Cys His Ala His Pro Gly Arg Pro Gly Gly Pro Val Leu Gln Pro
 260 265 270
 Ala Gly Gly Arg His Arg Pro Val Arg Gln Asp Leu Gln Gly Thr His
 275 280 285
 Glu Leu Arg Pro Leu Gly Arg His Leu Gln Arg Gly Val Gly Arg Glu
 290 295 300
 Leu Gln Gly Gly Leu Asp Arg Gln Pro Arg Leu Val Leu Leu Arg His
 305 310 315 320
 Gly Asp Glu Pro Gln Val Arg Pro Gly Arg Val Asp Arg Ser Gly Ala
 325 330 335
 Asp Arg Gln Val Val Pro Leu Phe His Arg Pro Val Leu Arg Arg Pro
 340 345 350
 Gly Ala Arg Arg Arg Arg Gly Ala Gly Ala Ala Val Ser Val Gln Pro
 355 360 365
 Asp Pro Gly Arg Pro Glu Arg Arg Leu Gly Gly Pro Pro Ala Ala Gly

370

375

380

Val Asp Leu Pro Gly Ala Asp Leu Leu Glu Cys Arg Pro Gly Gly Gln
 385 390 395 400

His Pro Gly Arg Pro Arg Gly Leu Pro Val His Val Gln Pro Ile Gln
 405 410 415

Arg Arg Ala Asp Arg Arg Arg Leu Trp Arg Gly Arg Pro Ala Leu Leu
 420 425 430

Arg Val

<210> 429

<211> 79

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 36169 right: 36405 frame: 2 size(aa): 79

<400> 429

Ser Ser Ser Leu Glu Pro Ala Ala Ser Ala Ala Ala Gly Pro Arg Ser
 1 5 10 15

Pro Gly Arg Pro Ser Pro Ala Arg Thr Ala Pro Ser Cys Ala Arg Ser
 20 25 30

Ala Ser Pro Arg Cys Ser Ser Ser Cys Ala Arg Gly Arg Ser Gly Gly
 35 40 45

Arg Arg Arg Gly Ala Ala Gly Ala Ala Ser Trp Pro Ala Pro Thr Trp
 50 55 60

Thr Thr Pro Arg Cys Pro Ser Gly Ala Trp Ala Ala Arg Cys Pro
 65 70 75

<210> 430

<211> 78

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 36265 right: 36498 frame: -2 size(aa): 78

<400> 430

Arg Thr Gly Arg Pro Arg Trp Cys Ser Thr Gly Pro Arg Thr Pro Gly
 1 5 10 15

Pro Pro Ser Gly Arg Arg Cys Arg Ser Ser Ala Pro Gly Leu Leu Arg
 20 25 30

Ala Pro Cys Arg Pro Gly Pro Gly Arg Thr Ala Gly Cys Arg Pro Gly
 35 40 45

Arg Cys Trp Pro Gly Gly Arg Pro Ser Cys Ala Pro Pro Ser Ala Pro
 50 55 60

Arg Ser Ala Pro Arg Thr Gly Gly Thr Ala Ser Gly Arg Ser
 65 70 75

<210> 431

<211> 73

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 36424 right: 36642 frame: 2 size(aa): 73

<400> 431

Ala Thr Ala Pro Ser Thr Arg Arg Arg Ser Arg Gly Thr Gly Ser Ser
 1 5 10 15

Gly Thr Pro Ser Gly Ser Ala Ser Pro Ser Arg His Arg Ser Arg Cys
 20 25 30

Ser Pro Arg Arg Cys Pro Ala Thr Arg Pro Pro Ser Thr Gly Pro Gly
 35 40 45

Trp Ser Ser Pro Gly Arg Arg Cys Ser Ser Arg Ser Ser Arg Arg Ala
 50 55 60

Thr Ser Ser Arg Pro Arg Cys Arg Thr
 65 70

<210> 432

<211> 74

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 36428 right: 36649 frame: -3 size(aa): 74

<400> 432

Ser Ile Arg Tyr Gly Thr Trp Ala Ser Thr Thr Ser Pro Val Cys Leu
 1 5 10 15

Asn Ala Thr Ser Ser Ala Ser Gln Val Arg Thr Thr Arg Ala Arg Cys
 20 25 30

Trp Val Val Gly Ser Leu Gly Ile Ala Val Ala Asn Thr Gly Asn Asp
 35 40 45

Ala Leu Thr Asp Trp Pro Thr Pro Met Val Phe His Trp Thr Pro Tyr
 50 55 60

Pro Gly Thr Ala Val Trp Ser Lys Val Pro
 65 70

<210> 433
<211> 146
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 36646 right: 37083 frame: 2 size(aa): 146

<400> 433

Ser Thr Thr Pro Thr Pro Thr Gly Ser Ser Asp Ser Cys Ser Pro Ala
1 5 10 15
Ser Pro Ser Ala Ser Ser Ala Gly Arg Ser Ser Gly Ser Thr Asn Gly
20 25 30
Thr Trp Pro Ala Arg Gly Pro Gly Trp Ser Gly Ser Cys Gly Trp Pro
35 40 45
Gln Thr Thr Thr Pro Ser Lys Arg Arg Ser Arg Arg Ser Ala Arg Arg
50 55 60
Ser Ala Ser Arg Ile Ser Ala Leu Ala Arg Cys Cys Leu Trp Gly Ala
65 70 75 80
Gly Thr Val Pro Arg Ser Pro Trp Pro Pro Gly Arg Thr Gly Thr Pro
85 90 95
Thr Cys Arg Arg Ser Pro Ser Thr Cys Thr Ala Arg Ser Ala Arg Tyr
100 105 110
Pro Arg Thr Thr Thr Pro Gly Pro Ala Pro Thr Ala Gly Cys Gly Thr
115 120 125
Gly Ala Ser Arg Arg Thr Gly Pro Thr Thr Pro Pro Gly Ala Ser Thr
130 135 140
Thr Trp
145

<210> 434
<211> 112
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 36653 right: 36988 frame: -3 size(aa): 112

<400> 434

Phe Val Gly Thr Leu Gln Ile Leu Pro Tyr Arg Ser Met Ala Thr Ala
1 5 10 15
Gly Arg Leu Glu Tyr Arg Ser Ala Arg Ala Ala Arg Val Ser Val Ala
20 25 30
Leu Tyr Arg Arg Pro Arg Asp Ser Thr Gly Pro Lys Leu Arg Phe Val

35 40 45
 Lys Leu Asn Ala Glu Arg Asn Asp Ala Ile Gly Val Ser Arg Ala Ser
 50 55 60
 Ser Ser Ala Ala Ile Arg Met Thr Arg Thr Thr Gln Gly Pro Gly Pro
 65 70 75 80
 Ala Arg Ser His Ser Cys Ser Arg Trp Asn Gly Pro Leu Asn Leu Pro
 85 90 95
 Lys Val Lys Pro Ala Asn Thr Ser Arg Thr Thr Pro Leu Ala Ser Val
 100 105 110

<210> 435

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 37039 right: 37317 frame: -2 size(aa): 93

<400> 435

Pro Pro Gly Arg His Ser Lys Arg Ser Ala Pro Gly Arg Ser Thr Pro
 1 5 10 15
 Ala Ala Gly Gly Pro Pro Arg Arg Arg Ser Gly Arg Pro Gly Ser Gly
 20 25 30
 Cys Thr Glu Thr Ala Ala Pro Ala Pro Arg Arg Arg Arg Ala Pro Gly
 35 40 45
 Arg Arg Ser Thr Gly Arg Trp Asn Arg Gly Thr Thr Cys Arg Ser Ala
 50 55 60
 Pro Asp Arg Ser Thr Arg Pro Gly Arg Thr Trp Gly Ser Ser Pro Cys
 65 70 75 80
 Arg Arg Ser Thr Arg Arg Gly Cys Arg Ser Ser Pro Pro
 85 90

<210> 436

<211> 113

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 37151 right: 37489 frame: -3 size(aa): 113

<400> 436

Ala Leu Ala Gly Ser Ser Gln Glu Thr Arg Gln Thr Val Cys Arg Val
 1 5 10 15
 Arg Leu Ala Val Pro Ser Tyr Ser Lys Gln Gly Trp Thr Thr Ala Pro
 20 25 30

Glu Ser Ser Thr Val Cys Ser Thr Leu Asp Gly Leu Asn Val Tyr Arg
 35 40 45
 Lys Ser Pro Gly Ala Ser Trp Val Leu Thr Thr Arg Pro Ala Leu Gln
 50 55 60
 Lys Ile Cys Pro Arg Lys Ile Asp Ala Ser Cys Trp Arg Thr Thr Gln
 65 70 75 80
 Ala Ser Phe Trp Ala Ala Arg Ile Arg Leu His Arg Asn Arg Arg Ser
 85 90 95
 Ser Pro Pro Pro Thr Ala Gly Thr Arg Pro Ser Gln Tyr Trp Pro Met
 100 105 110

Glu

<210> 437
 <211> 140
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 37228 right: 37647 frame: 2 size(aa): 140

<400> 437

Ser Trp Pro Pro Arg Thr Thr Pro Gly Trp Ser Ser Ser Ser Trp Arg
 1 5 10 15
 Arg Ser Ser Gly Gly Arg Ser Phe Gly Val Pro Ala Trp Trp Ser Ala
 20 25 30
 Pro Arg Thr Pro Pro Gly Thr Ser Cys Thr Arg Ser Thr His Pro Thr
 35 40 45
 Ser Ser Arg Pro Ser Thr Thr Leu Ala Arg Ser Ser Ser Pro Ala Ser
 50 55 60
 Ser Met Arg Ala Arg Pro Asn Ala Pro Gly Thr Pro Ser Val Trp Ser
 65 70 75 80
 Pro Gly Thr Thr Arg Pro Thr Pro Thr Ser Pro Gly Trp Ser Thr Ser
 85 90 95
 Arg Thr Ala Met Pro Trp Pro Ala Leu Ala Thr Gly Arg Trp Ser Ser
 100 105 110
 Gly Ser Thr Ala Ser Pro Pro Gly Gly Arg Pro Cys Gly Arg Pro Ser
 115 120 125
 Gly Arg Ser Cys Arg Arg Arg Ser Trp Thr Thr Arg
 130 135 140

<210> 438
 <211> 69
 <212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 37360 right: 37566 frame: -2 size(aa): 69

<400> 438

Ala Gly Ala Pro Ala Ala Gly Ser Gln Gly Gly Pro Gly His Arg Cys
1 5 10 15

Pro Arg Cys Thr Pro Pro Gly Ala Gly Arg Arg Trp Pro Gly Arg Pro
20 25 30

Arg Arg Pro Asp Arg Arg Cys Ala Gly Cys Val Trp Pro Cys Pro His
35 40 45

Thr Arg Ser Arg Ala Gly Arg Pro Arg Gln Ser Arg Arg Arg Ser Ala
50 55 60

Arg Arg Trp Met Gly
65

<210> 439

<211> 337

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 37427 right: 38437 frame: 3 size(aa): 337

<400> 439

Gly His Gly Gln Thr His Pro Ala His Arg Leu Ser Gly Leu Leu Gly
1 5 10 15

Arg Pro Gly Gln Arg Leu Pro Ala Pro Gly Gly Val His Arg Gly Gln
20 25 30

Arg Cys Pro Gly Pro Pro Trp Leu Pro Ala Ala Gly Ala Pro Ala Gln
35 40 45

Arg His His His Pro Gly Ala Gly Pro Ala Asp Gly Pro Val Gly Ala
50 55 60

Pro Val Gly Gly Asp Pro Gly Arg His Gly Asp Val Gln Gly Gly Arg
65 70 75 80

His Arg His Gly Pro Ala Pro Trp Gly Ser Cys Gln Gly His Gly Pro
85 90 95

Gly Gln Gly Arg Gly Pro Leu Arg Arg Ser Gly Gly Cys Pro Gly Arg
100 105 110

Arg His Asp His Ala Arg Arg Gly Thr Pro Asp Thr Pro Arg Arg Leu
115 120 125

Gly Gly Arg Ala Val Leu Leu Ala Val Gly Gly Arg Ala Thr Pro Gly

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      130              135              140
Gln Arg Gly Gly Gly Leu Arg Gly Arg Arg Asp Gly Leu Arg Leu Gly
145              150              155              160
Arg Arg Gln Pro Ala His Pro Arg His Ala Leu Ala Ala Gly Gly Ala
              165              170              175
Gln Pro Gly Gly Pro Ala Val Pro His Pro Gly Tyr Arg Gly Ala Arg
              180              185              190
Pro Glu Pro Val Arg Arg His Gly Pro Ala Leu Pro Val Arg His Leu
              195              200              205
Arg Pro Gly Gly Leu Arg Tyr Pro Ala Leu Gly Arg Arg Gly Leu Pro
              210              215              220
Val Gln Ala Ala Gly Pro Ala Ala Pro Asp Asp Pro Glu Cys Pro Asp
225              230              235              240
Arg Leu Gly Gln Gln Pro Gly Gln Ala Arg Gly Gln Leu Ala Pro Pro
              245              250              255
Arg Pro Gly Ile Arg Arg Trp Arg Phe Arg Pro Val His Leu Leu Pro
              260              265              270
Pro Ala Pro Val Pro Ala Gly Arg Gly Arg Gly Trp Arg Gly Gly His
              275              280              285
Leu Asp Gln Ser Val Gly Gly Gly Arg Pro Thr Asp Arg His His Arg
              290              295              300
Asp Asp Pro Pro Gly Gly Val Pro Gly Ala Asp Pro Val Gln Gly Pro
305              310              315              320
Asp Gly Val Gly Gly Gln Ser Arg Arg Arg Val Ala Leu Val Gly Gly
              325              330              335

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Ala

<210> 440

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 37547 right: 37825 frame: -3 size(aa): 93

<400> 440

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Asn Ser Pro Pro Ala Gln Pro Ala Arg Gly Val Gly Gly Ala Ala Ser
1              5              10              15

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Ser Val Ile Val Ser Pro Ser Trp Ala Thr Thr Arg Pro Pro Lys Arg
              20              25              30

```

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Thr Pro Pro Leu Ser Gly Ser Met Thr Leu Thr Arg Ser Pro Gly Arg
              35              40              45

```

Arg Ala Met Pro Met Ala Pro Thr Leu Asn Val Thr Val Ser Ser Arg
50 55 60

Ile Ala Ser Asp Arg Ser Ala His Trp Ala Val Arg Arg Ala Cys Pro
65 70 75 80

Arg Val Val Met Pro Leu Ser Arg Ser Ser Ser Gly Arg
85 90

<210> 441

<211> 79

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 37651 right: 37887 frame: 2 size(aa): 79

<400> 441

Arg Ser Arg Trp Ala Pro Ser Ala Trp Pro Cys Ala Leu Gly Ile Leu
1 5 10 15

Ser Arg Ser Trp Thr Arg Thr Arg Ala Gly Ser Ala Ser Ala Val Gly
20 25 30

Trp Leu Pro Arg Thr Ala Thr Arg Ser Arg Ser Thr Arg His Pro Arg
35 40 45

His Pro Ser Pro Ala Gly Arg Glu Gly Cys Ser Ile Gly Ser Arg Gly
50 55 60

Pro Gly Tyr Pro Gly Ser Thr Trp Arg Gly Ser Pro Gly Pro Ser
65 70 75

<210> 442

<211> 68

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 37829 right: 38032 frame: -3 size(aa): 68

<400> 442

Arg Arg Ala Val Thr Ala Tyr Arg Phe Trp Pro Ser Ser Ser Ile Pro
1 5 10 15

Arg Met Arg Asn Gly Trp Ala Ser Arg Leu Gly Thr Ser Ser Ser Gln
20 25 30

Gly Met Pro Gly Val Gly Arg Leu Ser Ser Pro Gln Pro Glu Thr Val
35 40 45

Thr Thr Ala Pro Glu Thr Pro Ala Thr Leu Thr Arg Gly Ser Pro Ala
50 55 60

Pro Asp Cys Gln
65

<210> 443
<211> 707
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 37851 right: 39971 frame: -1 size(aa): 707

<400> 443

Arg Leu Val Ala Asp His Asp Gln Val His Gln Gly Arg Arg Val Gly
1 5 10 15

Pro Gly Gly Val His Arg Pro Gln Val Asp Pro Val Gly Ala Leu Val
20 25 30

Asp Asp Ala Pro Pro Asp Gly His Pro Gly Gly His Gly Val Val Leu
35 40 45

His Arg His Arg Asn Arg Leu Asp Pro Ala Glu Gln Pro Arg Trp Gln
50 55 60

Arg Asp Arg Cys Asp Ala His Thr Gly Leu Val Val Leu Asp Arg Pro
65 70 75 80

Asp Asp Val Gly His Val Glu Asp His Ile Asp Val Leu Asp Pro Gly
85 90 95

Gly His Val Gly Ser Ala Gly Asp Gly Leu Glu Ala Asp Leu Pro Gln
100 105 110

Ala Gly Gly Gln Leu Leu Val Gly Gly Val Gly Val Glu Pro Arg Pro
115 120 125

Ala Ala Gln Glu Leu Ala Gln Val Glu Trp Arg Leu Leu Gly Asp Val
130 135 140

Val His Arg Val Gly Arg Arg Gly Asp Val Pro Glu Pro Gln Ala Asp
145 150 155 160

Arg Ala Asp Val Leu Lys Pro Pro Ala Val Arg Pro Gly Val Gly Phe
165 170 175

Cys Val Asp Gln Gln Gly Ala Ala Val Tyr Leu His Leu Gln Gln Gly
180 185 190

Pro Val Asp His Gly Leu Gly Arg Val Val Leu Asp Glu Leu Thr Ala
195 200 205

Ala Pro Ala Ala Val Asp Arg Leu Leu Gln Gly Arg Leu Val Gln Val
210 215 220

Leu Gly Gly Gly Trp Glu Val Glu Gln Arg Ala Ser Arg Ala Asp His
225 230 235 240

Gly Ala Val Cys Gln Ile Ser Arg Pro Ala Leu Gln Arg Gln Val Glu

245					250					255					
Gln	Arg	Lys	Asp	Val	Gly	Gly	Gln	Gly	Leu	Ala	Asp	Ala	His	Arg	His
			260					265					270		
Asp	Arg	His	Leu	Ile	Gly	Asp	Pro	Pro	Gly	Pro	Val	Pro	Gly	Pro	Glu
		275					280					285			
His	Asp	Arg	Glu	Gly	Pro	Val	Val	His	Gln	Val	Gly	Leu	Glu	Pro	Glu
	290					295					300				
Gly	Val	Pro	Gly	Asp	Ala	Val	Gly	Gln	Gln	Gly	Glu	Ser	Ala	Leu	Pro
305					310					315					320
Ala	His	Ile	Asp	Ala	Ala	Pro	Val	Ala	His	Leu	Glu	Thr	Gly	Asp	Val
			325						330					335	
Ala	His	Gln	Ala	Ala	Ala	Pro	Ala	Leu	Gly	Glu	Arg	Trp	Arg	Val	Arg
		340						345					350		
His	Glu	Pro	Arg	Glu	Pro	Ala	Ala	Ala	His	Pro	Ala	Leu	Ala	Val	Leu
		355				360						365			
Leu	Gly	Asp	Gln	Ala	Glu	Leu	Gly	Gly	Gly	Gly	Gly	Asp	Asp	Leu	Gln
	370					375						380			
Ala	Val	His	His	Val	Glu	His	Glu	Arg	Pro	Pro	Leu	Gln	Ala	Gly	His
385					390					395					400
Lys	Arg	Gly	Gln	Pro	Gly	Pro	His	Val	Pro	Gly	Ser	Cys	His	Gly	Gln
			405						410					415	
Gln	Gly	Leu	Asp	Ala	Gly	Ile	Arg	Gly	Ser	Gly	Ala	Gln	Lys	Asp	Val
			420					425					430		
Ala	Val	Leu	Val	Gly	Gly	Asp	Ala	Val	Gly	Gln	Trp	His	Pro	Asp	Gly
		435				440						445			
Pro	Pro	Pro	His	Leu	Asp	Arg	Ala	Gly	Val	Arg	Arg	His	Leu	Gly	Glu
		450				455					460				
Asp	Leu	Pro	Gly	Pro	Glu	Val	Ala	Ala	Ser	Gly	Gln	Val	Arg	Val	Arg
465					470					475					480
Gln	Asp	Ala	Ser	Arg	Ala	Gly	Leu	Ala	Pro	Gly	Val	Arg	Asp	Asp	Arg
			485						490				495		
Leu	Glu	Val	Gly	Asp	Arg	Glu	Pro	His	Leu	Glu	Arg	Arg	Gly	Leu	Lys
		500						505					510		
Leu	Arg	Arg	Pro	Glu	Arg	Leu	Gly	Ala	Gly	Phe	Ala	His	Arg	Arg	His
		515					520					525			
Pro	Asp	Leu	Val	Pro	Gly	Leu	Arg	Leu	Val	Pro	His	Gln	Gly	Asp	Arg
	530					535					540				
Leu	Gly	Gly	Val	Gly	Leu	Ser	Val	Tyr	Leu	Arg	Pro	Leu	Ile	Gly	Pro
545					550					555					560
Gly	Asp	Leu	Pro	Ala	Ser	Pro	Asp	Leu	Ala	Pro	Leu	Val	Leu	Glu	Pro
			565						570					575	

Val Val Gly Gly Gly Gln Val Glu Thr Ala Ile Asp Glu Tyr Pro Val
580 585 590

Leu Gly Ala Pro Val Asp Leu Glu Leu Gly Leu Ala Val Val Pro Asp
595 600 605

Asp Leu Gly Ile Gln Asp Arg Arg Gly Gln Arg Val Gln Gln Leu Glu
610 615 620

Gln Val Val Leu Val Val Arg Glu Arg Gly Ile Glu Val His Pro Val
625 630 635 640

Val Asp Val Gly Pro Val Ala Gln Gly Arg Asp Gly Val Pro Val Leu
645 650 655

Ala Glu Leu Leu Asp Thr Gln Asp Ala Glu Arg Leu Gly Leu Gln Val
660 665 670

Gly His Leu Gln Gln Pro Gly His Ala Gly Gly Gly Pro Ala Val Val
675 680 685

Ala Pro Ala Gly Asp Arg His Asp Gly Pro Gly Asp Pro Arg His Val
690 695 700

Asp Pro Gly
705

<210> 444
<211> 53
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 37861 right: 38019 frame: -2 size(aa): 53

<400> 444

Arg Arg Thr Gly Ser Gly Arg Ala Pro Arg Tyr Pro Gly Cys Gly Thr
1 5 10 15

Ala Gly Pro Pro Gly Trp Ala Pro Pro Ala Ala Arg Ala Cys Arg Gly
20 25 30

Trp Ala Gly Cys Arg Arg Pro Ser Arg Arg Pro Ser Arg Arg Pro Arg
35 40 45

Arg Pro Pro Pro Arg
50

<210> 445
<211> 81
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 37891 right: 38133 frame: 2 size(aa): 81

<400> 445

Arg Ser Pro Ala Gly Ala Thr Thr Ala Gly Pro Pro Pro Ala Cys Pro
1 5 10 15

Gly Cys Trp Arg Cys Pro Thr Trp Arg Pro Ser Arg Ser Ala Ser Trp
20 25 30

Val Ser Arg Ser Ser Ala Arg Thr Gly Thr Pro Ser Arg Pro Cys Ala
35 40 45

Thr Gly Pro Thr Ser Thr Thr Gly Trp Thr Ser Ile Pro Arg Ser Arg
50 55 60

Thr Thr Arg Thr Thr Cys Ser Ser Cys Trp Thr Arg Cys Pro Arg Arg
65 70 75 80

Ser

<210> 446

<211> 59

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 38137 right: 38313 frame: 2 size(aa): 59

<400> 446

Met Pro Arg Ser Ser Gly Thr Thr Ala Arg Pro Ser Ser Arg Ser Thr
1 5 10 15

Gly Ala Pro Lys Thr Gly Tyr Ser Ser Met Ala Val Ser Thr Cys Pro
20 25 30

Pro Pro Thr Thr Gly Ser Ser Thr Ser Gly Ala Arg Ser Gly Leu Ala
35 40 45

Gly Arg Ser Pro Gly Pro Ile Ser Gly Arg Arg
50 55

<210> 447

<211> 59

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 38290 right: 38466 frame: -2 size(aa): 59

<400> 447

Gly Thr Thr Pro Arg Ala Ala Trp Pro Gln Ala Pro Pro Thr Arg Ala
1 5 10 15

Thr Arg Arg Arg Leu Cys Pro Pro Thr Pro Ser Gly Pro Cys Thr Gly

20 25 30
 Ser Ala Pro Gly Thr Pro Pro Gly Gly Ser Ser Arg Trp Cys Arg Ser
 35 40 45

Val Gly Leu Pro Pro Pro Thr Asp Trp Ser Arg
 50 55

<210> 448

<211> 98

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 38303 right: 38596 frame: -3 size(aa): 98

<400> 448

Gly Gly Thr Trp Val Lys Ile Phe Gln Val Gln Arg Trp Pro Pro Val
 1 5 10 15

Ala Arg Phe Val Cys Asp Arg Thr Pro Ala Gly Pro Val Ser Pro Pro
 20 25 30

Gly Cys Gly Thr Ile Asp Ser Lys Ser Gly Ile Gly Asn His Thr Ser
 35 40 45

Ser Gly Val Ala Ser Ser Ser Ala Asp Gln Ser Asp Ser Ala Pro Ala
 50 55 60

Leu Pro Thr Asp Ala Ile Arg Thr Leu Tyr Arg Val Cys Ala Trp Tyr
 65 70 75 80

Pro Thr Arg Gly Ile Val Ser Val Val Ser Val Cys Arg Ser Thr Ser
 85 90 95

Ala His

<210> 449

<211> 148

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 38317 right: 38760 frame: 2 size(aa): 148

<400> 449

Thr Asp Arg Pro Thr Pro Pro Arg Arg Ser Pro Trp Trp Gly Thr Arg
 1 5 10 15

Arg Arg Pro Gly Thr Arg Ser Gly Trp Arg Arg Trp Ala Lys Pro Ala
 20 25 30

Pro Ser Arg Ser Gly Arg Arg Ser Leu Arg Pro Arg Arg Ser Arg Cys
 35 40 45

Gly Ser Leu Ser Pro Thr Ser Ser Arg Ser Ser Arg Thr Pro Gly Ala
 50 55 60

Arg Pro Ala Arg Leu Ala Ser Cys Arg Thr Arg Thr Trp Pro Leu Ala
 65 70 75 80

Ala Thr Ser Gly Pro Gly Arg Ser Ser Pro Arg Cys Arg Leu Thr Pro
 85 90 95

Ala Arg Ser Arg Cys Gly Gly Gly Pro Ser Gly Cys His Cys Pro Thr
 100 105 110

Ala Ser Pro Pro Thr Arg Thr Ala Thr Ser Phe Trp Ala Pro Leu Pro
 115 120 125

Arg Met Pro Ala Ser Arg Pro Cys Cys Pro Trp Gln Leu Pro Gly Thr
 130 135 140

Cys Gly Pro Gly
 145

<210> 450

<211> 234

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 38441 right: 39142 frame: 3 size(aa): 234

<400> 450

Gly His Ala Ala Arg Gly Val Val Pro Tyr Pro Arg Leu Arg Val Asp
 1 5 10 15

Arg Pro Ala Pro Arg Gly Arg Asp Arg Pro Gly Trp Arg Pro Val Ala
 20 25 30

His Glu Pro Gly His Trp Arg Pro Pro Leu Asp Leu Glu Asp Leu His
 35 40 45

Pro Gly Ala Ala Leu Arg Pro Leu Asp Arg Gly Val Gly Ala Ala Arg
 50 55 60

Arg Gly Ala Thr Ala Arg Arg Arg His His Arg Arg Gly Arg Leu His
 65 70 75 80

Pro Phe Gly His Arg Cys Pro Glu Cys Arg Arg Arg Gly Pro Ala Ala
 85 90 95

Arg Gly Ser Tyr Leu Gly Arg Ala Gly Pro Ala Asp His Val Cys Ala
 100 105 110

Arg Pro Gly Gly Ala Val Val His Ala Arg His Gly Gly Pro Pro Gly
 115 120 125

Asp Arg Pro Pro His Pro His Arg Val Pro Pro Gly His Arg Ala Gly
 130 135 140

Arg Pro Glu Pro Asp Gly Gln Pro Pro Val Leu Leu Ala His Ala Gly
145 150 155 160

Pro Ala Thr Val Arg Arg Ala Leu Gly Arg Arg Pro Gly Glu Arg His
165 170 175

Arg Arg Phe Arg Gly Ala Leu Pro Glu Arg Arg Arg Cys Gly Leu Gly
180 185 190

Gly Arg Phe Pro Pro Ala Val Arg Arg Arg Pro Arg Gly His Leu Leu
195 200 205

Val Arg Asp Pro Pro Asp Gly Leu Arg Asp Leu His Gly His Ala Pro
210 215 220

Gly Pro Gly Pro Asp Arg Val Gly Leu Arg
225 230

<210> 451

<211> 103

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 38678 right: 38986 frame: -3 size(aa): 103

<400> 451

Arg Thr Ser Lys Pro Ala Met Ser Leu Thr Arg Pro Pro Pro Gln Arg
1 5 10 15

Ser Ala Asn Gly Gly Gly Ser Gly Met Ser Gln Glu Asn Arg Arg Leu
20 25 30

Pro Ile Arg Leu Trp Pro Ser Cys Ser Val Thr Arg Arg Asn Ser Val
35 40 45

Gly Val Gly Gly Thr Ile Ser Arg Arg Ser Thr Met Ser Ser Met Asn
50 55 60

Asp Arg Pro Ser Arg Pro Gly Thr Asn Val Val Ser Arg Ala Arg Thr
65 70 75 80

Ser Gln Val Ala Ala Thr Gly Ser Arg Ala Ser Thr Pro Ala Phe Gly
85 90 95

Ala Ala Val Pro Lys Arg Met
100

<210> 452

<211> 65

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 38764 right: 38958 frame: 2 size(aa): 65

<400> 452

Pro Arg Leu Cys Pro Ala Trp Arg Gly Gly Arg Ser Cys Ser Thr Trp
 1 5 10 15

Trp Thr Ala Trp Arg Ser Ser Pro Pro Pro Pro Ser Ser Ala Trp
 20 25 30

Ser Pro Ser Arg Thr Ala Arg Ala Gly Trp Ala Ala Ala Gly Ser Leu
 35 40 45

Gly Ser Cys Arg Thr Arg His Arg Ser Pro Ser Ala Gly Ala Ala Ala
 50 55 60

Trp
 65

<210> 453

<211> 61

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 38914 right: 39096 frame: -2 size(aa): 61

<400> 453

Arg Ser Arg Ser Pro Ser Gly Gly Ser Arg Thr Arg Arg Cys Pro Arg
 1 5 10 15

Gly Arg Arg Arg Thr Ala Gly Gly Lys Arg Pro Pro Ser Pro His Arg
 20 25 30

Arg Arg Ser Gly Ser Ala Pro Arg Asn Arg Arg Cys Arg Ser Pro Gly
 35 40 45

Arg Arg Pro Ser Ala Arg Arg Thr Val Ala Gly Pro Ala
 50 55 60

<210> 454

<211> 63

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 39089 right: 39277 frame: -3 size(aa): 63

<400> 454

Asn Ser Gly Leu Val Glu Pro Thr Thr Val Pro Phe Ala Arg Ser Pro
 1 5 10 15

Gly Gln Pro Ser Ser Asp Arg Ser Ser Ser Val Arg Thr Leu Val Gly
 20 25 30

Arg Gly Trp Pro Met Pro Thr Val Thr Thr Ala Ile Ser Ser Glu Thr
 35 40 45

His Pro Val Arg Ser Arg Ala Arg Ser Met Thr Val Lys Val Pro
 50 55 60

<210> 455

<211> 85

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 39160 right: 39414 frame: 2 size(aa): 85

<400> 455

Arg Trp Ala Ser Ala Ser Pro Cys Pro Pro Thr Ser Leu Arg Cys Ser
 1 5 10 15

Thr Cys Arg Trp Arg Ala Gly Leu Glu Ile Trp Gln Thr Ala Pro Trp
 20 25 30

Ser Ala Arg Leu Ala Arg Cys Ser Thr Ser His Pro Pro Pro Arg Thr
 35 40 45

Cys Thr Arg Arg Pro Trp Arg Arg Arg Ser Thr Ala Ala Gly Ala Ala
 50 55 60

Val Ser Ser Ser Arg Thr Thr Arg Pro Ser Pro Trp Ser Thr Gly Pro
 65 70 75 80

Cys Trp Arg Trp Arg
 85

<210> 456

<211> 72

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 39268 right: 39483 frame: -2 size(aa): 72

<400> 456

Cys Pro Gln Ala Ala Ser Gly Thr Thr Arg Cys Arg Ile Leu Cys Arg
 1 5 10 15

Ser Ala Gly Arg Cys Arg Leu Pro Pro Pro Pro Ala Gly Pro Gly Arg
 20 25 30

Pro Trp Ala Gly Pro Gly Arg Ser Gly Arg Ala His Arg Arg Ser Gly
 35 40 45

Arg Cys Arg Ser Pro Pro Pro Gly Ala Pro Arg Thr Gly Pro Arg Trp
 50 55 60

Trp Val Gly Ser Arg Thr Ala Gly
 65 70

<210> 457
 <211> 55
 <212> PRT
 <213> Cyanophage S-2L

 <220>
 <221> misc_feature
 <223> New ORF = left: 39440 right: 39604 frame: -3 size(aa): 55

<400> 457

Gly	Trp	Ser	Pro	Ala	Pro	Pro	Leu	Arg	Asn	Ser	Pro	Arg	Trp	Asn	Gly
1				5					10					15	
Ala	Ser	Ser	Ala	Thr	Ser	Tyr	Ile	Gly	Ser	Val	Val	Gly	Ala	Thr	Tyr
			20					25					30		
Arg	Ser	Pro	Arg	Pro	Thr	Val	Leu	Met	Ser	Ser	Ser	Arg	Gln	Arg	Tyr
		35					40					45			
Asp	Pro	Val	Ser	Asp	Ser	Val									
	50					55									

<210> 458
 <211> 169
 <212> PRT
 <213> Cyanophage S-2L

 <220>
 <221> misc_feature
 <223> New ORF = left: 39479 right: 39985 frame: 3 size(aa): 169

<400> 458

Gly	His	Gln	His	Gly	Arg	Pro	Gly	Ala	Pro	Val	Arg	Arg	Pro	Asp	Asp
1				5					10					15	
Arg	Pro	Asp	Val	Arg	Arg	Arg	Arg	Gly	Gly	Ala	Ile	Pro	Pro	Gly	Arg
			20					25					30		
Val	Pro	Glu	Arg	Arg	Gly	Gly	Ala	Pro	Pro	Leu	Arg	Pro	Pro	Pro	Glu
		35					40					45			
Ala	Asp	Arg	Arg	Pro	Val	Ala	Asp	Gln	Pro	Arg	Gly	His	Arg	Gln	His
	50					55					60				
Tyr	Gln	Arg	Ala	Arg	Pro	Asp	Pro	Gly	Arg	Arg	Cys	Gly	Pro	Arg	Arg
65					70				75					80	
Ala	Arg	Arg	Arg	Leu	Asp	Asp	Arg	Gly	Leu	Arg	Gly	Arg	Cys	Gly	Arg
				85					90					95	
His	Ile	Gly	Pro	Ala	Ala	Thr	Gly	Ala	Val	Pro	Pro	Gly	Gln	Gly	Gly
			100					105					110		
Phe	Asp	Gly	Gly	Ala	Gly	Arg	His	Arg	Gly	Arg	Arg	Gly	Gly	Arg	Arg
		115					120					125			
Gly	Ala	His	Arg	Leu	Gln	Gly	His	Arg	Pro	Asp	Arg	Pro	Ala	Asp	Gly

130 135 140
Gly Arg Leu Arg Gly Arg His Gly Gly Pro Gly Gly Pro Asp Arg Gly
145 150 155 160
Arg Leu Leu Val Ala Thr Val Leu Ala
165

<210> 459

<211> 53

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 39487 right: 39645 frame: -2 size(aa): 53

<400> 459

Ser Ala Thr Gly Arg Arg Ser Ala Ser Gly Gly Gly Arg Arg Gly Gly
1 5 10 15
Ala Pro Pro Arg Arg Ser Gly Thr Arg Pro Gly Gly Met Ala Pro Pro
20 25 30
Arg Arg Arg Arg Thr Ser Gly Arg Ser Ser Gly Arg Arg Thr Gly Ala
35 40 45
Pro Gly Arg Pro Cys
50

<210> 460

<211> 107

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 39628 right: 39948 frame: 2 size(aa): 107

<400> 460

Pro Pro Ala Cys Gly Arg Ser Ala Ser Arg Pro Ser Pro Ala Leu Pro
1 5 10 15
Thr Cys Pro Pro Gly Ser Arg Thr Ser Met Trp Ser Ser Thr Cys Pro
20 25 30
Thr Ser Ser Gly Arg Ser Arg Thr Thr Arg Pro Val Trp Ala Ser His
35 40 45
Arg Ser Arg Cys His Arg Gly Cys Ser Ala Gly Ser Arg Arg Phe Arg
50 55 60
Trp Arg Cys Arg Thr Thr Pro Trp Pro Pro Gly Trp Pro Ser Gly Gly
65 70 75 80
Ala Ser Ser Thr Arg Ala Pro Thr Gly Ser Thr Cys Gly Arg Trp Thr
85 90 95

Pro Pro Gly Pro Thr Arg Arg Pro Trp Trp Thr
 100 105

<210> 461

<211> 115

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 39808 right: 40152 frame: -2 size(aa): 115

<400> 461

Asp Asp Cys Gly Arg Ile Asp Gly Leu Ile Leu Val Gly Gly Val His
 1 5 10 15

Pro Thr Gln Gly Leu Gly Gln Val Leu Gln Gln Leu Ala Asp Ala Asp
 20 25 30

Pro Glu Leu Leu Pro Gly Asp Ser Gln Val Val Glu Ala Val Gly Phe
 35 40 45

Ala Pro Asp Arg Gln Val Gly His Ala Ser Thr Val Ala Thr Ser Ser
 50 55 60

Arg Pro Arg Ser Gly Pro Pro Gly Pro Pro Cys Arg Pro Arg Arg Arg
 65 70 75 80

Pro Pro Ser Ala Gly Arg Ser Gly Arg Cys Pro Cys Arg Arg Cys Ala
 85 90 95

Pro Arg Arg Pro Pro Arg Arg Pro Arg Cys Arg Pro Ala Pro Pro Ser
 100 105 110

Lys Pro Pro
 115

<210> 462

<211> 424

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 39952 right: 41223 frame: 2 size(aa): 424

<400> 462

Ser Trp Ser Ala Thr Ser Arg Tyr Ser Ala Gly Met Thr Asn Leu Pro
 1 5 10 15

Ile Arg Gly Glu Thr Asp Ser Leu Asp Asn Leu Ala Val Thr Arg Glu
 20 25 30

Glu Phe Arg Val Gly Ile Gly Gln Leu Leu Glu Tyr Leu Ala Gln Ala
 35 40 45

Leu Gly Gly Val Asp Thr Thr Tyr Glu Asp Gln Pro Val Asp Pro Thr
 50 55 60
 Ala Val Val Leu Gln Gly Glu Pro Val Leu Asp Ile Asp Ala Val Pro
 65 70 75 80
 Glu Ala Ala Asp Asp Ser Leu Arg Val Pro Ser Thr Ser Trp Val Gln
 85 90 95
 Asp Glu Ile Ala Gly Leu Leu Asp Asp Tyr Val Ala Lys Thr Gly Gly
 100 105 110
 Val Met Thr Gly Asp Leu Arg Val Pro Ser Leu Asn Gly Gly Ala Leu
 115 120 125
 Ala Gly Leu Arg Asn Met Leu Ile Asn Gly Asp Phe Arg Ile Asp Gln
 130 135 140
 Arg Asn Thr Gly Gly Ala Tyr Gly Leu Thr Ala Gly Ala Ala Phe Ile
 145 150 155 160
 Tyr Gly Ala Asp Arg Trp Leu Gly Phe Cys Ser Gly Ala Asn Val Ser
 165 170 175
 Ala Gln Arg Ile Thr Val Ala Gly Thr Gln Val Asp Pro Asn Arg Met
 180 185 190
 Gln Phe Asn Gly Ala Ala Ser Val Thr Ala Ile Gly Ile Gly Gln Arg
 195 200 205
 Ile Glu Ala Ala Ser Ser Arg His Leu Ala Gly Arg Gln Ala Thr Leu
 210 215 220
 Ser Ala Asn Phe Ser Asn Ser Leu Leu Thr Thr Val Ser Trp Glu Ala
 225 230 235 240
 Phe Tyr Ala Asn Ser Ser Asp Ser Phe Gly Thr Arg Ala Ser Pro Thr
 245 250 255
 Arg Thr Ser Phe Ala Ser Gly Thr Phe Ala Val Thr Ser Ser Tyr Thr
 260 265 270
 Arg Tyr Ser Ala Thr Phe Asp Val Pro Ala Ala Ala Thr Thr Gly Ile
 275 280 285
 Glu Ile Val Phe Thr Val Gly Ala Gln Thr Ser Gly Thr Trp Val Val
 290 295 300
 Gly Gln Ala Gln Leu Glu Glu Gly Val Gln Val Thr Pro Phe Glu Arg
 305 310 315 320
 Arg Pro Leu Gly Leu Glu Thr Ala Leu Cys Gln Arg Tyr Phe Thr Phe
 325 330 335
 Phe Pro Val Asn Val Arg Ala Ala Ala Pro Gly Ala Gly Ala Leu Tyr
 340 345 350
 Ala His Ser Val Ser Phe Pro Gln Arg Met Arg Ala Asn Pro Thr Leu
 355 360 365
 Gly Ser Ile Val Pro Asp Pro Glu Gly Pro Gly Ala Leu Asn Leu Asn

370 375 380
 Gly Ala Gly Ile Thr Val Thr Gly Ala Thr Thr Tyr Gly Val Leu Val
 385 390 395 400
 Gln Met Val Val Asn Ser Pro Gly Ala Asp Ser Tyr Tyr Leu His Phe
 405 410 415
 Arg Ala Ser Ala Thr Ala Glu Leu
 420
 <210> 463
 <211> 181
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 39969 right: 40511 frame: 1 size(aa): 181
 <400> 463
 Ser Leu Gln Cys Trp His Asp Gln Pro Ala Asp Pro Gly Arg Asn Arg
 1 5 10 15
 Gln Pro Arg Gln Pro Gly Cys His Pro Gly Gly Val Pro Gly Arg His
 20 25 30
 Arg Pro Ala Ala Gly Val Pro Gly Pro Gly Pro Gly Trp Gly Gly His
 35 40 45
 His Leu Arg Gly Ser Ala Arg Arg Ser Asp Arg Ser Arg Pro Thr Gly
 50 55 60
 Arg Ala Gly Ala Arg His Arg Arg Gly Ala Gly Gly Gly Arg Arg Gln
 65 70 75 80
 Pro Ala Gly Ala Leu Asp Val Leu Gly Thr Arg Arg Asp Arg Gly Pro
 85 90 95
 Pro Arg Arg Leu Arg Gly Gln Asp Arg Arg Arg His Asp Arg Arg Pro
 100 105 110
 Ala Gly Ala Gln Pro Gln Arg Trp Gly Ala Gly Arg Thr Ala Gln His
 115 120 125
 Ala Asp Gln Arg Arg Phe Pro His Arg Pro Ala Glu His Trp Gly Arg
 130 135 140
 Leu Trp Pro Asp Gly Arg Gly Ser Phe His Leu Arg Cys Arg Pro Leu
 145 150 155 160
 Ala Arg Leu Leu Gln Trp Gly Gln Arg Leu Gly Ala Thr His His Gly
 165 170 175
 Gly Gly His Pro Gly
 180

<210> 464
 <211> 101

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 39989 right: 40291 frame: 3 size(aa): 101

<400> 464

Pro Thr Cys Arg Ser Gly Ala Lys Pro Thr Ala Ser Thr Thr Trp Leu
1 5 10 15
Ser Pro Gly Arg Ser Ser Gly Ser Ala Ser Ala Ser Cys Trp Ser Thr
20 25 30
Trp Pro Arg Pro Trp Val Gly Trp Thr Pro Pro Thr Arg Ile Ser Pro
35 40 45
Ser Ile Arg Pro Gln Ser Ser Tyr Arg Ala Ser Arg Cys Ser Thr Ser
50 55 60
Thr Arg Cys Arg Arg Arg Pro Thr Thr Ala Cys Gly Cys Pro Arg Arg
65 70 75 80
Pro Gly Tyr Lys Thr Arg Ser Arg Ala Ser Ser Thr Thr Thr Trp Pro
85 90 95
Arg Pro Ala Ala Ser
100

<210> 465
<211> 83
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 40040 right: 40288 frame: -3 size(aa): 83

<400> 465

Arg Arg Arg Ser Trp Pro Arg Ser Arg Arg Gly Gly Pro Arg Ser Arg
1 5 10 15
Leu Val Pro Arg Thr Ser Arg Ala Pro Ala Gly Cys Arg Arg Pro Pro
20 25 30
Pro Ala Pro Arg Arg Cys Arg Ala Pro Ala Arg Pro Val Gly Arg Leu
35 40 45
Arg Ser Asp Arg Arg Ala Asp Pro Arg Arg Trp Cys Pro Pro His Pro
50 55 60
Gly Pro Gly Pro Gly Thr Pro Ala Ala Gly Arg Cys Arg Pro Gly Thr
65 70 75 80
Pro Pro Gly

<210> 466
 <211> 301
 <212> PRT
 <213> Cyanophage S-2L

 <220>
 <221> misc_feature
 <223> New ORF = left: 40156 right: 41058 frame: -2 size(aa): 301

<400> 466

Ala	Gln	Arg	Arg	Ile	Gly	Pro	His	Pro	Leu	Trp	Glu	Ala	Asp	Ala	Val	1	5	10	15
Ser	Val	Glu	Gly	Pro	Ser	Pro	Trp	Gly	Arg	Arg	Pro	Asp	Val	Asp	Arg	20	25	30	
Lys	Glu	Arg	Glu	Val	Ala	Leu	Ala	Lys	Gly	Cys	Phe	Gln	Pro	Lys	Arg	35	40	45	
Ser	Pro	Leu	Glu	Gly	Gly	Tyr	Leu	Asp	Pro	Leu	Phe	Gln	Leu	Arg	Leu	50	55	60	
Thr	Asp	His	Pro	Gly	Ala	Gly	Arg	Leu	Arg	Pro	Asp	Cys	Glu	Asn	Asp	65	70	75	80
Leu	Asp	Ala	Ser	Arg	Cys	Arg	Arg	Arg	His	Ile	Glu	Gly	Gly	Ala	Val	85	90	95	
Pro	Arg	Val	Gly	Ala	Cys	Asn	Cys	Glu	Gly	Ala	Gly	Gly	Glu	Arg	Arg	100	105	110	
Pro	Gly	Arg	Gly	Gly	Pro	Gly	Ala	Glu	Ala	Val	Ala	Thr	Val	Cys	Val	115	120	125	
Glu	Arg	Leu	Pro	Arg	Asn	Ser	Gly	Glu	Glu	Ala	Val	Ala	Glu	Val	Gly	130	135	140	
Arg	Glu	Arg	Arg	Leu	Pro	Ala	Arg	Gln	Val	Ala	Ala	Ala	Gly	Arg	Leu	145	150	155	160
Asn	Ala	Leu	Pro	Asp	Ala	Asp	Gly	Ser	Asp	Ala	Arg	Cys	Pro	Val	Glu	165	170	175	
Leu	His	Thr	Val	Gly	Val	Asn	Leu	Gly	Ala	Arg	His	Arg	Asp	Ala	Leu	180	185	190	
Arg	Arg	Asp	Val	Gly	Pro	Thr	Ala	Glu	Ala	Glu	Pro	Ala	Val	Gly	Thr	195	200	205	
Val	Asp	Glu	Ser	Cys	Pro	Gly	Arg	Gln	Ala	Ile	Gly	Ala	Pro	Ser	Val	210	215	220	
Pro	Leu	Val	Asp	Ala	Glu	Ile	Ala	Val	Asp	Gln	His	Val	Ala	Gln	Ser	225	230	235	240
Gly	Gln	Arg	Pro	Thr	Val	Glu	Ala	Gly	His	Pro	Gln	Val	Ala	Gly	His	245	250	255	
Asp	Ala	Ala	Gly	Leu	Gly	His	Val	Val	Val	Glu	Glu	Ala	Arg	Asp	Leu				

260 265 270

Val Leu Tyr Pro Gly Arg Arg Gly His Pro Gln Ala Val Val Gly Arg
 275 280 285

Leu Arg His Arg Val Asp Val Glu His Arg Leu Ala Leu
 290 295 300

<210> 467

<211> 161

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 40412 right: 40894 frame: 3 size(aa): 161

<400> 467

Arg Pro Gly Gln Leu Ser Ser Thr Val Pro Thr Ala Gly Ser Ala Ser
 1 5 10 15

Ala Val Gly Pro Thr Ser Arg Arg Asn Ala Ser Arg Trp Arg Ala Pro
 20 25 30

Arg Leu Thr Pro Thr Val Cys Ser Ser Thr Gly Gln Arg Ala Ser Leu
 35 40 45

Pro Ser Ala Ser Gly Ser Ala Leu Arg Arg Pro Ala Ala Ala Thr Trp
 50 55 60

Arg Ala Gly Arg Arg Arg Ser Arg Pro Thr Ser Ala Thr Ala Ser Ser
 65 70 75 80

Pro Leu Phe Arg Gly Arg Arg Ser Thr Gln Thr Val Ala Thr Ala Ser
 85 90 95

Ala Pro Gly Pro Pro Leu Pro Gly Arg Leu Ser Pro Pro Ala Pro Ser
 100 105 110

Gln Leu Gln Ala Pro Thr Arg Gly Thr Ala Pro Pro Ser Met Cys Arg
 115 120 125

Arg Arg Gln Arg Leu Ala Ser Arg Ser Phe Ser Gln Ser Gly Arg Arg
 130 135 140

Arg Pro Ala Pro Gly Trp Ser Val Arg Arg Ser Trp Lys Arg Gly Ser
 145 150 155 160

Arg

<210> 468

<211> 80

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 40434 right: 40673 frame: -1 size(aa): 80

<400> 468

Asn Ala Ser His Glu Thr Val Val Arg Arg Leu Leu Leu Lys Leu Ala
1 5 10 15
Glu Ser Val Ala Cys Leu Pro Ala Arg Trp Arg Leu Leu Ala Ala Ser
20 25 30
Met Arg Cys Pro Met Pro Met Ala Val Thr Leu Ala Ala Pro Leu Asn
35 40 45
Cys Ile Arg Leu Gly Ser Thr Trp Val Pro Ala Thr Val Met Arg Cys
50 55 60
Ala Glu Thr Leu Ala Pro Leu Gln Lys Pro Ser Gln Arg Ser Ala Pro
65 70 75 80

<210> 469

<211> 135

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 40689 right: 41093 frame: 1 size(aa): 135

<400> 469

Arg Gln Leu Arg His Pro Gly Leu Pro Tyr Pro Asp Val Phe Arg Leu
1 5 10 15
Arg His Leu Arg Ser Tyr Lys Leu Leu His Ala Val Gln Arg His Leu
20 25 30
Arg Cys Ala Gly Gly Gly Asn Asp Trp His Arg Asp Arg Phe His Ser
35 40 45
Arg Gly Ala Asp Val Arg His Leu Gly Gly Arg Ser Gly Ala Val Gly
50 55 60
Arg Gly Gly Pro Gly Asn Pro Leu Arg Ala Ala Thr Ala Trp Ala Gly
65 70 75 80
Asn Ser Pro Leu Pro Ala Leu Leu His Val Leu Ser Gly Gln Arg Gln
85 90 95
Gly Gly Gly Pro Arg Gly Trp Gly Pro Leu Arg Ser Gln Arg Gln Leu
100 105 110
Pro Thr Ala Asp Ala Gly Gln Ser Asp Ala Gly Leu Asn Arg Ala Arg
115 120 125
Ser Gly Arg Pro Trp Gly Ala
130 135

<210> 470

<211> 67

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 40898 right: 41098 frame: 3 size(aa): 67

<400> 470

Pro Pro Ser Ser Gly Asp Arg Leu Gly Trp Lys Gln Pro Phe Ala Ser
1 5 10 15

Ala Thr Ser Arg Ser Phe Arg Ser Thr Ser Gly Arg Arg Pro Gln Gly
20 25 30

Leu Gly Pro Ser Thr Leu Thr Ala Ser Ala Ser His Ser Gly Cys Gly
35 40 45

Pro Ile Arg Arg Trp Ala Gln Ser Cys Pro Ile Arg Lys Ala Leu Gly
50 55 60

Arg Leu Thr
65

<210> 471

<211> 53

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 41062 right: 41220 frame: -2 size(aa): 53

<400> 471

Phe Gly Gly Gly Gly Gly Ser Glu Val Gln Val Val Gly Val Arg Pro
1 5 10 15

Gly Gly Val Asp His His Leu His Gln Asp Pro Val Gly Gly Arg Ala
20 25 30

Arg Asp Gly Asp Ala Gly Ala Val Gln Val Lys Arg Pro Arg Ala Phe
35 40 45

Arg Ile Gly His Asp
50

<210> 472

<211> 190

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 41097 right: 41666 frame: 1 size(aa): 190

<400> 472

Leu Glu Arg Arg Arg His His Arg His Gly Arg Asp His Leu Arg Gly

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<210> 473
<211> 152
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41102 right: 41557 frame: 3 size(aa): 152
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<400> 473

Thr 1	Ala	Pro	Ala	Ser 5	Pro	Ser	Arg	Ala	Arg 10	Pro	Pro	Thr	Gly	Ser 15	Trp
Cys	Arg	Trp	Trp 20	Ser	Thr	Pro	Pro	Gly 25	Arg	Thr	Pro	Thr	Thr 30	Cys	Thr
Ser	Glu	Pro 35	Pro	Pro	Pro	Pro	Asn 40	Tyr	Glu	Leu	Pro	Ser 45	Asp	Arg	Phe
Gln	Gln 50	Arg	Arg	Pro	Ser	Arg 55	Arg	Arg	Arg	His	His 60	Pro	Arg	Arg	Pro
Pro 65	Gln	His	Arg	Pro	Ala 70	Gly	Ile	Arg	Gly	Met 75	Ala	Gly	Arg	Arg	Glu 80

Arg Pro Gly Ala Cys Pro Gly Thr Gly Gly Ala Pro Ala Arg Pro Gly
85 90 95

Arg Leu Gly Gly Leu Pro Gly Ala Arg Asp Arg Arg Pro Gly Leu Pro
100 105 110

Asp Asp Leu Arg Pro Val Gly Ala Val Ala Ala Gly Glu Tyr Arg Leu
115 120 125

His Arg His Leu Gly Gly Pro Gly Val Gly Arg Arg Gly Ala Pro Gln
130 135 140

Pro Gly Arg Pro Thr Val Gly Cys
145 150

<210> 474

<211> 118

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 41190 right: 41543 frame: -1 size(aa): 118

<400> 474

Ala Gly Gln Val Gly Ala Pro Pro Gly Ala Gln His Gln Gly Pro Arg
1 5 10 15

Asp Gly Gly Glu Gly Gly Ile His Arg Gln Arg Leu Arg Arg Leu Gly
20 25 30

Val Asp Arg Leu Val Asp Arg Gly Gly Asp His Glu Leu Gln Glu Gly
35 40 45

Pro Pro Ile Ala Gln Gly Glu Arg Gly Arg Pro Arg Cys Arg Gly Arg
50 55 60

Leu Arg Asp Val Pro Gly Gly Gln Pro Cys Leu Val Phe Leu Pro Val
65 70 75 80

Gly Val Ala Gly Val Gly Gly Asp Gly Gly Ala Val Gly Glu Thr Asp
85 90 95

Asp Ala Ala Gly Ile Gly Gln Thr Val Ala His Ser Ser Ala Val Ala
100 105 110

Glu Ala Leu Lys Cys Arg
115

<210> 475

<211> 87

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 41224 right: 41484 frame: -2 size(aa): 87

<400> 475

Arg Arg Tyr Ser Pro Ala Ala Thr Ala Pro Thr Gly Arg Arg Ser Ser
1 5 10 15
Gly Arg Pro Gly Arg Arg Ser Arg Ala Pro Gly Arg Pro Pro Asn Arg
20 25 30
Pro Gly Arg Ala Gly Ala Pro Pro Val Pro Gly Gln Ala Pro Gly Arg
35 40 45
Ser Arg Arg Pro Ala Met Pro Arg Ile Pro Ala Gly Arg Cys Cys Gly
50 55 60
Gly Arg Arg Gly Trp Trp Arg Arg Arg Arg Asp Gly Arg Arg Cys Trp
65 70 75 80
Asn Arg Ser Asp Gly Ser Ser
85

<210> 476

<211> 67

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 41231 right: 41431 frame: -3 size(aa): 67

<400> 476

Thr Gly Ala Ala Ile Thr Ser Ser Arg Lys Ala Pro Gln Ser Pro Arg
1 5 10 15
Ala Ser Gly Gly Ala Pro Gly Ala Gly Ala Gly Ser Gly Thr Phe Pro
20 25 30
Ala Ala Ser His Ala Ser Tyr Ser Cys Arg Ser Val Leu Arg Gly Ser
35 40 45
Ala Gly Met Val Ala Pro Ser Ala Arg Arg Thr Thr Leu Leu Glu Ser
50 55 60
Val Arg Arg
65

<210> 477

<211> 59

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 41239 right: 41415 frame: 2 size(aa): 59

<400> 477

Pro Ile Pro Ala Ala Ser Ser Val Ser Pro Thr Ala Pro Pro Ser Pro

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      1             5             10             15
Pro Thr Pro Ala Thr Pro Thr Gly Arg Asn Thr Arg His Gly Trp Pro
      20             25             30
Pro Gly Thr Ser Arg Ser Leu Pro Arg His Arg Gly Arg Pro Arg Ser
      35             40             45
Pro Trp Ala Ile Gly Gly Pro Ser Trp Ser Ser
      50             55

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<210> 478

<211> 594

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 41447 right: 43228 frame: -3 size(aa): 594

<400> 478

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Val Pro Leu Val Ala Leu Thr Ala Gly Asp Ile Asp Val Asp Asn Glu
1             5             10             15
Asp Val Arg Arg His Gln Gly Arg Gln His Gly Gln Gln Asp Gly Gly
      20             25             30
Glu Pro Gly Arg Ser Ile His Glu Trp Ala Gly Ser Leu Gly Ala Leu
      35             40             45
Gly His Gly Thr Gln Ala Pro Ile Asp Ser Glu Leu Pro Arg Ile Ile
      50             55             60
Cys Pro Gln Pro Ala Asp Glu Arg Leu Glu Ile Gly Gln Gly Pro Glu
65             70             75             80
Ala Asp Ala Ala Gly Arg Pro Gly Glu His Val Leu Val Thr Val Gln
      85             90             95
Val Ser Phe Asp Gly Arg Ala Ser Gly Leu Ala Arg Ala Lys Pro Gly
      100            105            110
Glu Arg His Arg Arg Gly Ala Gln Ala Leu Ala Pro Ala Gly Val Ile
      115            120            125
Val Val Phe Ala Ala Gly Pro Gly Asp Val Leu Asp Ala Pro Glu Pro
      130            135            140
Leu Arg Asp Arg Leu His Ala Ala Ala Leu Ala Ala Gly Pro Gly Ala
145            150            155            160
Glu Asp Leu Val Pro Gly Leu Ala Ala Asp Gly Gln Glu Ile Ala Leu
      165            170            175
Gly Asp Ala Ala Val His Pro Leu Glu Ala Gln Glu Leu Glu Ala Pro
      180            185            190
Ala Val Asp Leu Pro Gly Ala Gly Gln Glu Glu Ser Gly Leu Leu Gly
      195            200            205

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Leu Gly Arg Pro Ala Pro Gln Val Ala Leu Gly His Pro Ala Val Pro
 210 215 220
 Glu Pro Leu Leu Asp Val Ala Ala Gly Val Asp Val Gln Glu His Arg
 225 230 235 240
 Pro Gly His Leu Arg Glu Leu Ala Leu Gly Glu Leu Gly Arg Gln Gly
 245 250 255
 Gly Val Ala Val Gly Gly Pro Val Pro Val Pro Ala Cys Val Val Gly
 260 265 270
 Glu Arg Gln Glu Gly Gly Leu Leu Val Gly Gly Glu Leu Gly Pro Val
 275 280 285
 Gly Asp Gly Leu Gly Gln Gly Arg Leu Val Leu Leu Asp Pro Gly Ala
 290 295 300
 Gln His Leu Val Gly Leu Arg Cys Gly Asp Arg Val Ala Leu Ala Asp
 305 310 315 320
 Arg Pro Ala Val Gly His Pro Gly Ala Ala Pro Ala Asp Arg Pro Gly
 325 330 335
 Ile Ala Leu Gly Ala Gly Val Gly Ile Gly Leu Glu Leu Ala Pro Leu
 340 345 350
 Glu Gln Leu Asp Gln Gly Gln Gly Pro Ile His Arg Phe Arg Gly Val
 355 360 365
 Gly Leu Ala Val Ala Ala Gly Pro Gly Gly Val Leu Val Glu His Leu
 370 375 380
 Leu Gly Gly His Pro Leu Gly Asp Gly Val Lys Gln His Arg Gly Thr
 385 390 395 400
 Gly Asp Leu Val Gly Leu Pro Leu Glu Glu Pro Glu Pro Val Glu Glu
 405 410 415
 Pro Ala Leu Arg His Arg Pro Arg His Arg Ser Ala Pro Gln Leu Gly
 420 425 430
 Asp Leu Val Ala Gln Gly Leu Gln Val Leu Thr Asp Gly Leu Asp Leu
 435 440 445
 Leu Val Leu Ala Ala Gln Gly Ala Gly His Gly Asp Gln Leu Gly Glu
 450 455 460
 Arg Leu Gln Asp Ala Val Glu Pro Leu Glu Pro Ala Thr Gln Glu Gly
 465 470 475 480
 Gln Glu Leu Val Glu Gly Glu Gln His Gln Glu Asp His Ala Gln Gly
 485 490 495
 Val Glu Ala Ala Asp Ile Gly Thr Gly Arg Gly Gly Glu Arg Ala Asp
 500 505 510
 Leu Leu Asp Gln Gly Leu Glu Arg His Cys Gly Val Gly Val Gly Ile
 515 520 525

Cys Arg Gly Met Pro Val Cys Ser Ala Met Ser Arg Ser Trp Ser Arg
530 535 540

Ser Ser Ala Val Arg Thr Ala Ala Cys Ser Ser Trp Ser Thr Pro Asp
545 550 555 560

Cys Arg Pro Ala Arg Leu Gly Arg Pro Pro Ala Pro Asn Thr Arg Ala
565 570 575

Pro Glu Met Ala Val Lys Ala Val Phe Thr Gly Ser Asp Cys Ala Asp
580 585 590

Trp Ala

<210> 479

<211> 161

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 41488 right: 41970 frame: -2 size(aa): 161

<400> 479

Asp Ile Gly Arg Val Ile Ala Gln Arg Pro Ser Leu Glu Ile Trp Ser
1 5 10 15

Arg Arg Asp Ser Arg Ser Leu Arg Met Ala Ser Ile Cys Ser Ser Ser
20 25 30

Arg Arg Arg Gly Arg Ala Met Ala Thr Ser Trp Val Asn Asp Cys Arg
35 40 45

Thr Pro Leu Asn Arg Leu Asn Arg Pro Pro Arg Lys Gly Arg Ser Ser
50 55 60

Ser Arg Ala Asn Ser Thr Arg Lys Thr Thr Pro Arg Gly Ser Arg Leu
65 70 75 80

Pro Thr Ser Ala Pro Val Gly Ala Gly Ser Gly Leu Ile Cys Trp Thr
85 90 95

Arg Asp Trp Ser Val Ile Ala Gly Trp Gly Trp Gly Ser Ala Gly Gly
100 105 110

Cys Arg Ser Ala Arg Arg Cys Arg Ala Ala Gly Pro Gly Leu Arg Arg
115 120 125

Ser Gly Pro Gln Pro Ala Ala Ala Gly Gln His Pro Thr Val Gly Arg
130 135 140

Pro Gly Trp Gly Ala Pro Arg Arg Pro Thr Pro Gly Pro Pro Arg Trp
145 150 155 160

Arg

<210> 480

<211> 129
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41561 right: 41947 frame: 3 size(aa): 129

<400> 480

Pro Ala Ala Ala Gly Cys Gly Pro Asp Arg Arg Arg Pro Gly Pro Ala
1 5 10 15
Ala Arg His Arg Arg Ala Asp Arg His Pro Pro Ala Asp Pro His Pro
20 25 30
His Pro Ala Met Thr Leu Gln Ser Leu Val Gln Gln Ile Ser Pro Leu
35 40 45
Pro Ala Pro Thr Gly Ala Asp Val Gly Ser Leu Asp Pro Leu Gly Val
50 55 60
Val Phe Leu Val Leu Phe Ala Leu Asp Glu Leu Leu Pro Phe Leu Gly
65 70 75 80
Gly Arg Phe Lys Arg Phe Asn Gly Val Leu Gln Ser Phe Thr Gln Leu
85 90 95
Val Ala Met Ala Arg Pro Leu Arg Arg Glu Asp Glu Gln Ile Glu Ala
100 105 110
Ile Arg Lys Asp Leu Glu Ser Leu Arg Asp Gln Ile Ser Lys Leu Gly
115 120 125

Arg

<210> 481
<211> 105
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41587 right: 41901 frame: 2 size(aa): 105

<400> 481

Pro Pro Lys Thr Trp Thr Ser Cys Ala Thr Ser Pro Ser Arg Pro Ala
1 5 10 15
Ser Pro Cys Arg Ser Pro Pro Pro Arg Asn Asp Ala Pro Ile Pro
20 25 30
Gly Pro Thr Asp Gln Pro Ala Pro Arg Pro Asp Arg Cys Arg Cys Arg
35 40 45
Gln Pro Arg Pro Pro Gly Arg Gly Leu Pro Gly Ala Val Arg Pro Arg
50 55 60

Arg Ala Pro Ala Leu Pro Gly Trp Pro Val Gln Ala Val Gln Arg Arg
65 70 75 80

Pro Ala Val Val His Pro Ala Gly Arg His Gly Pro Pro Pro Ala Pro
85 90 95

Arg Gly Arg Ala Asp Arg Gly His Pro
100 105

<210> 482

<211> 95

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 41670 right: 41954 frame: 1 size(aa): 95

<400> 482

Arg Ser Asn Pro Trp Ser Asn Arg Ser Ala Arg Ser Pro Pro Arg Pro
1 5 10 15

Val Pro Met Ser Ala Ala Ser Thr Pro Trp Ala Trp Ser Ser Trp Cys
20 25 30

Cys Ser Pro Ser Thr Ser Ser Cys Pro Ser Trp Val Ala Gly Ser Ser
35 40 45

Gly Ser Thr Ala Ser Cys Ser Arg Ser Pro Ser Trp Ser Pro Trp Pro
50 55 60

Ala Pro Cys Ala Ala Arg Thr Ser Arg Ser Arg Pro Ser Val Arg Thr
65 70 75 80

Trp Ser Pro Cys Ala Thr Arg Ser Pro Ser Trp Gly Ala Glu Arg
85 90 95

<210> 483

<211> 115

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 41841 right: 42185 frame: -1 size(aa): 115

<400> 483

Ala Arg Ala Pro Arg Thr Ala Gly Ser Gly Ala Gly Pro Asp Pro Pro
1 5 10 15

Ile Ser Arg Cys Trp Ala Gly Cys Ser Gly Gly Pro Arg Gly Arg Pro
20 25 30

Arg Arg Ala Pro Ala Arg Arg Ala Pro Pro Gly Arg Trp Arg Gln Thr
35 40 45

Ala Ser Arg His Arg Arg Pro Gly Gly Ala Pro Pro Arg Arg Thr Gly
 50 55 60

Thr Gly Arg Gly Thr Gly Phe Glu Thr Ser Ala Ala Ser Ser Leu Ser
 65 70 75 80

Ala Pro Ala Trp Arg Ser Gly Arg Ala Gly Thr Pro Gly Pro Tyr Gly
 85 90 95

Trp Pro Arg Ser Ala Arg Pro Arg Gly Ala Gly Gly Gly Pro Trp Arg
 100 105 110

Pro Ala Gly
 115

<210> 484

<211> 381

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 41951 right: 43093 frame: 3 size(aa): 381

<400> 484

Ala Met Thr Arg Pro Met Ser Gln Ser Arg Phe Leu Asp Arg Phe Arg
 1 5 10 15

Phe Phe Glu Gly Glu Pro His Gln Val Ser Gly Ala Ser Met Leu Phe
 20 25 30

Asp Ala Ile Ser Gln Gly Val Pro Ala Glu Gln Val Leu Asp Glu Asp
 35 40 45

Ala Pro Trp Ala Arg Arg Tyr Ser Gln Pro Asn Thr Ser Lys Ser Val
 50 55 60

Asp Arg Ala Leu Pro Leu Ile Gln Leu Phe Glu Gly Arg Glu Leu Lys
 65 70 75 80

Ala Tyr Pro Asp Pro Gly Thr Lys Gly Asp Pro Trp Thr Ile Gly Trp
 85 90 95

Gly Ser Thr Arg Met Pro Asp Gly Arg Pro Val Arg Lys Gly Asp Thr
 100 105 110

Val Thr Ala Ala Gln Ala Asp Gln Met Leu Arg Thr Trp Val Glu Gln
 115 120 125

Asp Glu Ala Ala Leu Ala Lys Ala Ile Pro Asn Trp Ala Lys Leu Thr
 130 135 140

Thr Asp Gln Gln Ala Ala Leu Leu Ser Phe Thr Tyr Asn Ala Gly Arg
 145 150 155 160

Asp Trp Tyr Gly Pro Ser Asn Gly Tyr Ala Thr Leu Ser Ala Lys Leu
 165 170 175

Ala Glu Gly Lys Leu Ser Glu Val Pro Arg Ala Met Leu Leu Tyr Val

180 185 190
 Asn Pro Gly Ser Asp Val Glu Glu Gly Leu Arg Asn Arg Arg Met Ala
 195 200 205
 Glu Gly Asp Leu Trp Gly Arg Pro Pro Gln Ala Gln Lys Pro Arg Leu
 210 215 220
 Leu Leu Thr Arg Thr Arg Gln Ile Asp Gly Arg Gly Leu Glu Leu Leu
 225 230 235 240
 Arg Leu Gln Arg Met His Gly Ser Val Ser Lys Gly Asp Leu Leu Thr
 245 250 255
 Val Ser Gly Gln Ala Arg Asn Gln Val Phe Arg Thr Gly Ala Ser Ser
 260 265 270
 Lys Ser Gly Ser Met Glu Pro Ile Pro Glu Gly Leu Trp Arg Val Glu
 275 280 285
 Asn Ile Ala Trp Ala Gly Gly Lys Asp Asn Tyr Asn Ala Ser Trp Gly
 290 295 300
 Glu Gly Leu Gly Pro Ala Ser Val Pro Leu Thr Trp Leu Gly Pro Gly
 305 310 315 320
 Lys Thr Gly Arg Ser Ala Ile Glu Ala His Leu Asp Ser Asn Gln Asn
 325 330 335
 Val Phe Pro Gly Thr Ala Gly Cys Ile Gly Phe Arg Ser Leu Ala Asp
 340 345 350
 Leu Gln Thr Phe Ile Gly Trp Leu Arg Ala Asp Asp Pro Arg Glu Leu
 355 360 365
 Thr Val Asp Trp Gly Leu Gly Thr Val Pro Lys Arg Pro
 370 375 380

<210> 485

<211> 67

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 41958 right: 42158 frame: 1 size(aa): 67

<400> 485

Arg Gly Arg Cys Leu Lys Ala Gly Ser Ser Thr Gly Ser Gly Ser Ser
 1 5 10 15
 Arg Gly Ser Pro Thr Arg Ser Pro Val Pro Arg Cys Cys Leu Thr Pro
 20 25 30
 Ser Pro Arg Gly Cys Pro Pro Ser Arg Cys Ser Thr Arg Thr Pro Pro
 35 40 45
 Gly Pro Ala Ala Thr Ala Ser Pro Thr Pro Arg Asn Arg Trp Ile Gly
 50 55 60

Pro Cys Pro
65

<210> 486
<211> 266
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 42049 right: 42846 frame: 2 size(aa): 266

<400> 486

Arg	His	Leu	Pro	Gly	Gly	Ala	Arg	Arg	Ala	Gly	Ala	Arg	Arg	Gly	Arg	1	5	10	15
Pro	Leu	Gly	Pro	Pro	Leu	Gln	Pro	Ala	Gln	His	Leu	Glu	Ile	Gly	Gly	20	25	30	
Ser	Gly	Pro	Ala	Pro	Asp	Pro	Ala	Val	Arg	Gly	Ala	Arg	Ala	Gln	Gly	35	40	45	
Leu	Ser	Arg	Pro	Arg	His	Gln	Gly	Arg	Ser	Leu	Asp	Asp	Arg	Leu	Gly	50	55	60	
Gln	His	Pro	Asp	Ala	Arg	Arg	Pro	Ala	Gly	Pro	Gln	Gly	Arg	His	Gly	65	70	75	80
His	Arg	Ser	Ala	Gly	Arg	Pro	Asp	Ala	Ala	His	Leu	Gly	Arg	Ala	Gly	85	90	95	
Arg	Gly	Gly	Pro	Gly	Gln	Gly	His	Pro	Gln	Leu	Gly	Gln	Ala	His	His	100	105	110	
Arg	Pro	Ala	Gly	Arg	Pro	Pro	Val	Val	His	Leu	Gln	Arg	Arg	Pro	Gly	115	120	125	
Leu	Val	Arg	Ala	Leu	Gln	Arg	Leu	Arg	His	Pro	Val	Gly	Gln	Ala	Arg	130	135	140	
Arg	Gly	Gln	Ala	Leu	Gly	Gly	Ala	Pro	Gly	Asp	Ala	Pro	Val	Arg	Gln	145	150	155	160
Pro	Arg	Gln	Arg	Arg	Arg	Gly	Gly	Ala	Pro	Glu	Pro	Pro	Asp	Gly	Arg	165	170	175	
Gly	Arg	Pro	Val	Gly	Pro	Ala	Ala	Pro	Gly	Pro	Glu	Ala	Gln	Thr	Pro	180	185	190	
Pro	Asp	Pro	His	Pro	Ala	Asp	Arg	Arg	Pro	Gly	Pro	Arg	Ala	Pro	Ala	195	200	205	
Pro	Pro	Ala	Asp	Ala	Arg	Gln	Arg	Leu	Gln	Gly	Arg	Ser	Pro	Asp	Arg	210	215	220	
Gln	Arg	Pro	Gly	Pro	Glu	Pro	Gly	Leu	Pro	His	Arg	Gly	Gln	Gln	Gln	225	230	235	240

Glu Arg Gln His Gly Ala Asp Pro Gly Gly Ala Leu Ala Arg Arg Glu
 245 250 255

His Arg Leu Gly Arg Arg Gln Arg Gln Leu
 260 265

<210> 487

<211> 155

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 42162 right: 42626 frame: 1 size(aa): 155

<400> 487

Ser Ser Cys Ser Arg Gly Ala Ser Ser Arg Pro Ile Pro Thr Pro Ala
 1 5 10 15

Pro Arg Ala Ile Pro Gly Arg Ser Ala Gly Ala Ala Pro Gly Cys Pro
 20 25 30

Thr Ala Gly Arg Ser Ala Arg Ala Thr Arg Ser Pro Gln Arg Arg Pro
 35 40 45

Thr Arg Cys Cys Ala Pro Gly Ser Ser Arg Thr Arg Arg Pro Trp Pro
 50 55 60

Arg Pro Ser Pro Thr Gly Pro Ser Ser Pro Pro Thr Ser Arg Pro Pro
 65 70 75 80

Ser Cys Arg Ser Pro Thr Thr Gln Ala Gly Thr Gly Thr Gly Pro Pro
 85 90 95

Thr Ala Thr Pro Pro Cys Arg Pro Ser Ser Pro Arg Ala Ser Ser Arg
 100 105 110

Arg Cys Pro Gly Arg Cys Ser Cys Thr Ser Thr Pro Ala Ala Thr Ser
 115 120 125

Arg Arg Gly Ser Gly Thr Ala Gly Trp Pro Arg Ala Thr Cys Gly Ala
 130 135 140

Gly Arg Pro Arg Pro Arg Ser Pro Asp Ser Ser
 145 150 155

<210> 488

<211> 73

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 42196 right: 42414 frame: -2 size(aa): 73

<400> 488

Val Asn Asp Arg Arg Ala Ala Cys Trp Ser Val Val Ser Leu Ala Gln

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1             5             10             15
Leu Gly Met Ala Leu Ala Arg Ala Ala Ser Ser Cys Ser Thr Gln Val
      20                      25                      30
Arg Ser Ile Trp Ser Ala Cys Ala Ala Val Thr Val Ser Pro Leu Arg
      35                      40                      45
Thr Gly Arg Pro Ser Gly Ile Arg Val Leu Pro Gln Pro Ile Val Gln
      50                      55                      60
Gly Ser Pro Leu Val Pro Gly Ser Gly
65                      70

<210> 489
<211> 129
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 42457 right: 42843 frame: -2 size(aa): 129

<400> 489

Leu Ser Leu Pro Pro Ala Gln Ala Met Phe Ser Thr Arg Gln Ser Pro
1             5             10             15
Ser Gly Ile Gly Ser Met Leu Pro Leu Leu Leu Leu Ala Pro Val Arg
      20                      25                      30
Lys Thr Trp Phe Arg Ala Trp Pro Leu Thr Val Arg Arg Ser Pro Leu
      35                      40                      45
Glu Thr Leu Pro Cys Ile Arg Trp Arg Arg Arg Ser Ser Arg Pro Arg
      50                      55                      60
Pro Ser Ile Cys Arg Val Arg Val Arg Arg Ser Leu Gly Phe Trp Ala
65                      70                      75                      80
Trp Gly Gly Arg Pro His Arg Ser Pro Ser Ala Ile Arg Arg Phe Arg
      85                      90                      95
Ser Pro Ser Ser Thr Ser Leu Pro Gly Leu Thr Tyr Arg Ser Ile Ala
      100                      105                      110
Arg Gly Thr Ser Glu Ser Leu Pro Ser Ala Ser Leu Ala Asp Arg Val
      115                      120                      125

Ala

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<210> 490
<211> 64
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 42528 right: 42719 frame: -1 size(aa): 64

```

<400> 490

Arg Ser Gly Asp Arg Pro Trp Arg Arg Cys Arg Ala Ser Ala Gly Gly
1 5 10 15

Ala Gly Ala Arg Gly Pro Gly Arg Arg Ser Ala Gly Cys Gly Ser Gly
20 25 30

Gly Val Trp Ala Ser Gly Pro Gly Ala Ala Gly Pro Thr Gly Arg Pro
35 40 45

Arg Pro Ser Gly Gly Ser Gly Ala Pro Pro Arg Arg Arg Cys Arg Gly
50 55 60

<210> 491

<211> 132

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 42717 right: 43112 frame: 1 size(aa): 132

<400> 491

Pro Ser Ala Ala Arg Pro Gly Thr Arg Ser Ser Ala Pro Gly Pro Ala
1 5 10 15

Ala Arg Ala Ala Ala Trp Ser Arg Ser Arg Arg Gly Ser Gly Ala Ser
20 25 30

Arg Thr Ser Pro Gly Pro Ala Ala Lys Thr Thr Ile Thr Pro Ala Gly
35 40 45

Ala Arg Ala Trp Ala Pro Arg Arg Cys Arg Ser Pro Gly Leu Ala Leu
50 55 60

Ala Arg Pro Asp Ala Arg Pro Ser Lys Leu Thr Trp Thr Val Thr Lys
65 70 75 80

Thr Cys Ser Pro Gly Arg Pro Ala Ala Ser Ala Ser Gly Pro Trp Pro
85 90 95

Ile Ser Arg Arg Ser Ser Ala Gly Cys Gly Gln Met Ile Leu Gly Ser
100 105 110

Ser Leu Ser Ile Gly Ala Trp Val Pro Cys Pro Ser Ala Pro Asn Asp
115 120 125

Pro Ala His Ser
130

<210> 492

<211> 56

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 42723 right: 42890 frame: -1 size(aa): 56

<400> 492

Ala Ala Pro Thr Arg Gly Pro Gly Pro Arg Pro Ser Trp Arg Tyr Ser
1 5 10 15

Cys Leu Cys Arg Arg Pro Arg Arg Cys Ser Arg Arg Ala Arg Ala Pro
20 25 30

Pro Gly Ser Ala Pro Cys Cys Arg Ser Cys Cys Trp Pro Arg Cys Gly
35 40 45

Arg Pro Gly Ser Gly Pro Gly Arg
50 55

<210> 493

<211> 51

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 42940 right: 43092 frame: -2 size(aa): 51

<400> 493

Gly Arg Leu Gly Thr Val Pro Arg Pro Gln Ser Thr Val Ser Ser Arg
1 5 10 15

Gly Ser Ser Ala Arg Ser Gln Pro Met Asn Val Trp Arg Ser Ala Arg
20 25 30

Asp Arg Lys Pro Met Gln Pro Ala Val Pro Gly Asn Thr Phe Trp Leu
35 40 45

Leu Ser Arg
50

<210> 494

<211> 110

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 43097 right: 43426 frame: 3 size(aa): 110

<400> 494

Arg Pro Arg Pro Phe Val Asn Arg Pro Ala Trp Phe Ser Ala Ile Leu
1 5 10 15

Leu Thr Met Leu Ala Ala Leu Met Thr Ala His Ile Leu Val Ile His
20 25 30

Val Asp Val Ala Ser Cys Gln Ser His Lys Arg Tyr Leu Leu Glu Gln

```

      35              40              45
Arg Arg Thr Gly Ser Leu Pro Gln Glu Leu Arg Asn Val Pro Asp Leu
 50              55              60

Val Glu Ala Glu Cys Ala Asp Leu Glu Gly Lys Phe Arg Ser Val Val
 65              70              75              80

Asp Gln Trp Val Ser Val Ile Leu Ser Leu Leu Gly Gly Ala Gly Val
      85              90              95

Ala Ala Ala Met Gly Lys Pro Pro Thr Asp Gln Pro Gly Arg
      100              105              110

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<210> 495

<211> 172

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 43120 right: 43635 frame: 2 size(aa): 172

<400> 495

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Thr Gly Leu Val Leu Arg His Pro Ala Asp His Ala Gly Gly Pro Asp
 1              5              10              15

Asp Gly Ala His Pro Arg Tyr Pro Arg Arg Cys Arg Gln Leu Ser Glu
      20              25              30

Pro Gln Ala Val Pro Thr Arg Ala Ala Pro His Arg Gln Pro Ala Pro
      35              40              45

Gly Ala Pro Glu Arg Ala Arg Pro Gly Gly Gly Gly Met Arg Arg Pro
      50              55              60

Gly Gly Gln Val Ser Glu Arg Arg Gly Pro Val Gly Val Gly Asp Leu
      65              70              75              80

Glu Ser Ala Arg Trp Arg Gly Gly Arg Arg Gly His Gly Gln Thr Ala
      85              90              95

Asp Gly Ser Ala Gly Ala Leu Thr Pro Asp Ala His Gln Gly Ser His
      100              105              110

Gln Ala Glu Arg Gln Tyr Glu Arg Gly Glu Asp His Gly Thr Ser Gly
      115              120              125

Gly Ile Val Gly His Ala Arg Ala Arg Glu Arg Arg Arg Cys Arg Leu
      130              135              140

Pro Ser Gly Thr Gln Pro Ser Gly Pro Met Pro Ser Ser Leu Thr Gly
      145              150              155              160

Thr His Thr Thr Pro Gly Arg Arg Trp Gln Asp Pro
      165              170

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<210> 496

<211> 61

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43170 right: 43352 frame: 1 size(aa): 61

<400> 496

Arg Arg Thr Ser Ser Leu Ser Thr Ser Met Ser Pro Ala Val Arg Ala
1 5 10 15
Thr Ser Gly Thr Tyr Ser Ser Ser Ala Ala Pro Ala Ala Cys Pro Arg
20 25 30
Ser Ser Gly Thr Cys Pro Thr Trp Trp Arg Arg Asn Ala Pro Thr Trp
35 40 45
Arg Ala Ser Phe Gly Ala Ser Trp Thr Ser Gly Cys Arg
50 55 60

<210> 497
<211> 84
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43188 right: 43439 frame: -1 size(aa): 84

<400> 497

Ala Ser Gly Val Asn Ala Pro Ala Asp Pro Ser Ala Val Cys Pro Trp
1 5 10 15
Pro Arg Arg Pro Pro Arg His Arg Ala Asp Ser Arg Ser Pro Thr Pro
20 25 30
Thr Gly Pro Arg Arg Ser Glu Thr Cys Pro Pro Gly Arg Arg Ile Pro
35 40 45
Pro Pro Pro Gly Arg Ala Arg Ser Gly Ala Pro Gly Ala Gly Cys Arg
50 55 60
Cys Gly Ala Ala Arg Val Gly Thr Ala Cys Gly Ser Asp Ser Trp Arg
65 70 75 80
His Arg Arg Gly

<210> 498
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43213 right: 43413 frame: -2 size(aa): 67

<400> 498

Ser Val Gly Gly Leu Pro Met Ala Ala Ala Thr Pro Ala Pro Pro Ser
1 5 10 15

Arg Leu Lys Ile Thr Asp Thr His Trp Ser Thr Thr Leu Arg Asn Leu
20 25 30

Pro Ser Arg Ser Ala His Ser Ala Ser Thr Arg Ser Gly Thr Phe Arg
35 40 45

Ser Ser Trp Gly Arg Leu Pro Val Arg Arg Cys Ser Ser Arg Tyr Arg
50 55 60

Leu Trp Leu
65

<210> 499

<211> 88

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 43213 right: 43413 frame: -2 size(aa): 67

<400> 499

Ser His Gly Leu Arg Leu Ala Arg Thr Val Ser Arg Pro Asp Gly Cys
1 5 10 15

Pro Gly Glu His Leu Gly Ser Thr Pro Arg Leu Ile Arg Arg Arg Phe
20 25 30

Ala His Gly Arg Gly Asp Pro Arg Ala Thr Glu Gln Thr Gln Asp His
35 40 45

Arg His Pro Leu Val His Asp Ala Pro Lys Leu Ala Leu Gln Val Gly
50 55 60

Ala Phe Arg Leu His Gln Val Gly His Val Pro Glu Leu Leu Gly Gln
65 70 75 80

Ala Ala Gly Ala Ala Leu Leu Glu
85

<210> 500

<211> 58

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 43417 right: 43590 frame: -2 size(aa): 58

<400> 500

Ala Ala Trp His Gly Ala Arg Trp Leu Gly Ser Thr Gly Glu Ala Ala

1 5 10 15

Pro Ser Pro Leu Ser Gly Ser Arg Met Ser Tyr Asp Pro Ala Ala Ser
 20 25 30

Pro Met Val Phe Ala Ser Leu Val Leu Ser Leu Gly Leu Met Ala Ala
 35 40 45

Leu Val Ser Ile Trp Gly Gln Arg Pro Gly
 50 55

<210> 501
 <211> 59
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 43458 right: 43634 frame: -1 size(aa): 59

<400> 501

Gly Ser Cys His Leu Arg Pro Gly Val Val Cys Val Pro Val Lys Leu
 1 5 10 15

Leu Gly Met Gly Pro Asp Gly Trp Val Pro Leu Gly Arg Arg His Leu
 20 25 30

Arg Arg Ser Leu Ala Arg Ala Cys Pro Thr Ile Pro Pro Leu Val Pro
 35 40 45

Trp Ser Ser Pro Arg Ser Tyr Cys Leu Ser Ala
 50 55

<210> 502
 <211> 111
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 43499 right: 43831 frame: -3 size(aa): 111

<400> 502

Ser Ser Pro Met Ala Arg Ser Pro Thr Thr Cys Pro Ser Gly Thr Ser
 1 5 10 15

Pro Thr Ser Arg Pro Pro Gly Leu Ser Ser Ser Arg Thr Pro Pro Ser
 20 25 30

Gly Thr Gly Thr Pro Pro Ala Thr Ser Arg Thr Cys Cys Ser Trp Pro
 35 40 45

Ser Thr Thr Ala Thr Pro Trp Arg Arg Arg Met His Leu Arg Asp Thr
 50 55 60

Leu Lys Asp Pro Ala Thr Ser Val Leu Val Leu Cys Val Phe Leu Leu
 65 70 75 80

Ser Cys Leu Ala Trp Gly Pro Met Ala Gly Phe His Trp Gly Gly Gly
85 90 95

Thr Phe Ala Ala Leu Trp Leu Ala His Val Leu Arg Ser Arg Arg
100 105 110

<210> 503

<211> 111

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 43500 right: 43832 frame: 1 size(aa): 111

<400> 503

Arg Arg Asp Arg Arg Thr Cys Ala Ser Gln Arg Ala Ala Lys Val Pro
1 5 10 15

Pro Pro Gln Trp Asn Pro Ala Ile Gly Pro His Ala Lys Gln Leu Asn
20 25 30

Arg Asn Thr His Asn Thr Arg Thr Glu Val Ala Gly Ser Leu Ser Val
35 40 45

Ser Arg Arg Cys Ile Arg Arg Leu Gln Gly Val Ala Val Val Asp Gly
50 55 60

Gln Glu Gln Gln Val Leu Asp Val Ala Gly Gly Val Pro Val Pro Leu
65 70 75 80

Gly Gly Val Arg Glu Leu Asp Ser Pro Gly Gly Leu Glu Val Gly Asp
85 90 95

Val Pro Asp Gly Gln Val Val Gly Asp Arg Ala Ile Gly Glu Leu
100 105 110

<210> 504

<211> 175

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 43594 right: 44118 frame: -2 size(aa): 175

<400> 504

Ala Trp Pro Pro Ile Ser Arg Thr Lys Ala Thr Arg Pro Pro Thr Pro
1 5 10 15

Ser Lys Pro Pro Pro Ser Ser Leu Pro Pro Asp Asp His Pro Pro Gln
20 25 30

Ser Pro Ala Pro Asp Asp Pro Pro Arg His Gln Arg Arg Ala Pro His
35 40 45

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Val  Pro  Gly  Ala  Leu  Arg  Pro  Ser  Leu  Arg  Pro  Val  Pro  Pro  Ala  His
 50                               55                               60

Gln  Val  Gly  Pro  Gly  Pro  Gly  Pro  Ala  Leu  Val  Glu  Pro  Glu  Ala  Pro
65                               70                               75                               80

Ser  Gly  Arg  Pro  Arg  Asp  Val  Pro  Glu  Pro  Gly  Gly  Arg  Arg  Ala  Arg
                               85                               90                               95

Ala  Pro  Gln  Trp  Pro  Asp  His  Leu  Pro  Pro  Ala  Arg  Pro  Val  His  Pro
                               100                              105                              110

Pro  Pro  Gln  Gly  Arg  Arg  Gly  Cys  Arg  Ala  Leu  Glu  Arg  Pro  Pro  Val
                               115                              120                              125

Glu  Arg  Ala  His  His  Gln  Arg  Arg  Arg  Gly  Pro  Ala  Ala  Pro  Gly  Arg
130                               135                               140

Gln  Arg  Arg  Arg  Pro  Pro  Gly  Gly  Gly  Gly  Cys  Thr  Cys  Val  Thr  Arg
145                               150                              155                              160

Leu  Arg  Ile  Leu  Pro  Pro  Pro  Ser  Trp  Cys  Cys  Val  Cys  Ser  Cys
                               165                              170                              175

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<210> 505
<211> 56
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43639 right: 43806 frame: 2 size(aa): 56

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.400> 505

Ala  Cys  His  Ala  Gly  Ala  Ser  Ala  Ala  Ser  Arg  Gly  Ser  Pro  Ser  Leu
1                               5                               10                               15

Thr  Ala  Arg  Ser  Ser  Arg  Ser  Ser  Thr  Ser  Leu  Val  Val  Cys  Pro  Phe
20                               25                               30

His  Trp  Gly  Ala  Phe  Glu  Ser  Ser  Thr  Ala  Pro  Ala  Ala  Leu  Arg  Trp
35                               40                               45

Gly  Met  Tyr  Arg  Thr  Gly  Arg  Trp
50                               55

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<210> 506
<211> 329
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43647 right: 44633 frame: -1 size(aa): 329

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<400> 506

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Pro  Ala  Arg  Pro  Gly  Ala  Val  Pro  Pro  Gly  Ala  Gly  Cys  Pro  Arg  Pro

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1	5	10	15
Arg Pro Cys	Pro Pro Gly Gly	Ala Pro Met Arg	Pro Arg Arg Pro Arg
	20	25	30
Ser Gly	Pro Trp Ala Cys	Arg Thr Ala Gln	Arg Pro Ser Arg Pro Met
	35	40	45
Glu Ala Thr	Ser Arg Ala Ser	Arg Gly Pro Leu	Arg Pro Arg Ala Ser
	50	55	60
Leu Arg Pro	Ser Ser Ala Pro	Gly Ala Ser Val	Ala Gly Ser His Pro
	65	70	75
Thr Ala Pro	Pro Pro Met	Pro Asp Cys	Pro His Phe Thr Thr Ala Gln
	85	90	95
Met Leu Gly	Leu Glu Thr Ala	Leu Gln Cys Ala	Trp Glu Asp Leu Arg
	100	105	110
Leu Glu Arg	Ala Val Gly Cys	Ser Pro Lys Gln	Ala Ala Thr Tyr Phe
	115	120	125
Val Gln His	Leu Asp Gly Ser	Leu Pro Phe Leu	Gln Arg Leu Gly Ala
	130	135	140
Thr Arg Ala	Arg Arg Ala Gly	Arg Ala Arg Val	Pro Arg Ala Ala
	145	150	155
Pro Gly Ala	Cys Leu Pro Ser	Gln Ser Tyr Ala	Glu Arg Gly Arg Pro
	165	170	175
Ser Pro Gly	Gln Arg Leu His	Ala Leu Arg Arg	His Pro Asn Arg Leu
	180	185	190
Pro Pro Arg	Tyr Arg Pro Met	Thr Thr Pro Arg	Lys Ala Leu Leu Gln
	195	200	205
Thr Thr Arg	Pro Asp Thr Ser	Asp Gly His His	Thr Phe Arg Glu Leu
	210	215	220
Tyr Ala His	Arg Tyr Ala Leu	Phe Leu Leu Leu	Ile Lys Trp Ala Pro
	225	230	235
Val Gln Ala	Gln Pro Trp Trp	Ser Arg Lys His	His Leu Ala Gly Pro
	245	250	255
Glu Met Tyr	Pro Asn Gln Val	Val Ala Gly Leu	Glu Leu Pro Asn Gly
	260	265	270
Pro Ile Thr	Tyr His Leu Pro	Val Arg Tyr Ile	Pro His Leu Lys Ala
	275	280	285
Ala Gly Ala	Val Glu Leu Ser	Asn Ala Pro Gln	Trp Asn Gly His Thr
	290	295	300
Thr Ser Asp	Val Glu Asp Leu	Leu Leu Leu Ala	Val Asn Asp Gly Asp
	305	310	315
Pro Leu Glu	Ala Ala Asp	Ala Pro Ala	
	325		

<210> 507
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43835 right: 44035 frame: -3 size(aa): 67

<400> 507

Pro Pro Pro Ala Lys Pro Cys Ser Arg Arg Pro Ala Pro Thr Pro Ala
1 5 10 15

Thr Gly Thr Thr Arg Ser Gly Ser Ser Thr Pro Ile Ala Thr Pro Cys
20 25 30

Ser Ser Cys Ser Ser Ser Gly Pro Arg Ser Arg Pro Ser Pro Gly Gly
35 40 45

Ala Gly Ser Thr Ile Trp Pro Ala Gln Arg Cys Thr Arg Thr Arg Trp
50 55 60

Ser Pro Gly
65

<210> 508
<211> 84
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43836 right: 44087 frame: 1 size(aa): 84

<400> 508

Pro Gly Asp His Leu Val Arg Val His Leu Trp Ala Gly Gln Met Val
1 5 10 15

Leu Pro Ala Pro Pro Gly Leu Gly Leu Asp Arg Gly Pro Leu Asp Glu
20 25 30

Gln Glu Glu Gln Gly Val Ala Met Gly Val Glu Leu Pro Glu Arg Val
35 40 45

Val Pro Val Ala Gly Val Gly Ala Gly Arg Leu Glu Gln Gly Phe Ala
50 55 60

Gly Gly Gly His Arg Ala Val Thr Arg Arg Glu Ala Val Trp Met Ala
65 70 75 80

Ser Glu Gly Val

<210> 509
<211> 142
<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 43931 right: 44356 frame: 3 size(aa): 142

<400> 509

Ala Gly Gly Thr Gly Arg Ser Asp Gly Arg Arg Ala Pro Gly Thr Cys
1 5 10 15

Gly Ala Arg Arg Trp Cys Arg Gly Gly Ser Ser Gly Ala Gly Leu Cys
20 25 30

Gly Gly Trp Ser Ser Gly Gly Asn Glu Glu Gly Gly Gly Leu Asp Gly
35 40 45

Val Gly Gly Arg Val Ala Phe Val Leu Glu Met Gly Gly His Ala Gln
50 55 60

Arg Lys Ile Glu Thr Val Gly Lys Leu Arg Gly Gln Pro Trp Gly Arg
65 70 75 80

Pro Gly Leu Phe Arg Leu Ala Gly Pro Val Ser Arg Pro Gly Ala Ala
85 90 95

Gly Met Ala Gly Cys Arg Arg Gly Ala Gly Arg Asn Arg Trp Leu Pro
100 105 110

Ala Trp Ala Ser Ser Leu Arg Arg Ala Arg Gly Ala Asp Pro Pro Arg
115 120 125

Arg Ile Gly Gly Arg Phe Arg Gly Pro Ala Ser Gly Arg Trp
130 135 140

<210> 510

<211> 81

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 44039 right: 44281 frame: -3 size(aa): 81

<400> 510

Ala Ala Arg Pro Ser Arg Gln Pro Pro Ile Ser Ser Ser Thr Ser Thr
1 5 10 15

Ala Ala Cys His Ser Cys Ser Ala Trp Ala Arg His Gly Pro Gly Glu
20 25 30

Pro Glu Glu Pro Gly Pro Ser Pro Gly Leu Pro Pro Glu Leu Ala Tyr
35 40 45

Arg Leu Asn Leu Thr Leu Ser Val Ala Ala His Leu Gln Asp Lys Gly
50 55 60

Tyr Thr Pro Ser Asp Ala Ile Gln Thr Ala Ser Leu Leu Val Thr Ala

65	70	75	80
Arg			
<210>	511		
<211>	83		
<212>	PRT		
<213>	Cyanophage S-2L		
<220>			
<221>	misc_feature		
<223>	New ORF = left: 44122 right: 44370 frame: -2 size(aa): 83		

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<400> 511

Leu Pro Pro Phe His His Arg Pro Asp Ala Gly Pro Arg Asn Arg Pro
1          5          10          15

Pro Met Arg Leu Gly Gly Ser Ala Pro Arg Ala Arg Arg Arg Leu Leu
20          25          30

Ala Gln Ala Gly Ser His Leu Phe Arg Pro Ala Pro Arg Arg Gln Pro
35          40          45

Ala Ile Pro Ala Ala Pro Gly Arg Asp Thr Gly Pro Ala Ser Arg Lys
50          55          60

Ser Pro Gly Arg Pro Gln Gly Cys Pro Arg Ser Leu Pro Thr Val Ser
65          70          75          80

Ile Leu Arg

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<210> 512
<211> 179
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44142 right: 44678 frame: 1 size(aa): 179
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<400> 512
Ala Ser Ser Gly Gly Ser Pro Gly Asp Gly Pro Gly Ser Ser Gly Ser
1          5          10          15
Pro Gly Pro Cys Arg Ala Gln Ala Leu Gln Glu Trp Gln Ala Ala Val
          20          25          30
Glu Val Leu Asp Glu Ile Gly Gly Cys Leu Leu Gly Arg Ala Ala Tyr
          35          40          45
Gly Ala Leu Glu Ala Gln Ile Leu Pro Gly Ala Leu Glu Gly Gly Phe
          50          55          60
Glu Ala Gln His Leu Gly Gly Gly Glu Met Gly Ala Val Arg His Gly
65          70          75          80

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Arg Arg Ser Gly Gly Met Arg Ala Gly Asp Gly Cys Ala Gly Arg Arg
 85 90 95

Gly Gly Pro Gln Arg Gly Pro Gly Pro Gln Arg Ala Pro Gly Arg Pro
 100 105 110

Gly Gly Gly Leu His Trp Ala Ala Gly Ala Leu Gly Arg Pro Ala Gly
 115 120 125

Pro Gly Ala Thr Pro Gly Ala Pro Gly Ala His Arg Ser Pro Ser Arg
 130 135 140

Trp Thr Trp Pro Trp Pro Gly Ala Ala Ser Pro Gly Gly His Arg Pro
 145 150 155 160

Arg Thr Gly Arg Ser Ser Gly Ser Arg Pro Gly Pro Arg Ala Thr Thr
 165 170 175

Ala Pro Gly

<210> 513
 <211> 181
 <212> PRT
 <213> Cyanophage S-2L

<220>
 <221> misc_feature
 <223> New ORF = left: 44285 right: 44827 frame: -3 size(aa): 181

<400> 513

Arg Leu His Pro Arg Pro Gly Ala Pro Arg Leu Ala Trp Ala Ala Ala
 1 5 10 15

Arg Gln Pro Gly Gly Leu Ala Asp Pro Ala Gln Gly Leu Arg Pro Ala
 20 25 30

Pro Arg Arg His Pro Leu Arg Gly Pro Leu Ala Arg Gly Pro Gly Arg
 35 40 45

Leu His Pro Gly Ala Val Val Ala Arg Gly Pro Gly Arg Leu Pro Asp
 50 55 60

Asp Arg Pro Val Leu Gly Arg Cys Pro Pro Gly Leu Ala Ala Pro Gly
 65 70 75 80

His Gly His Val His Leu Glu Gly Leu Arg Cys Ala Pro Gly Ala Pro
 85 90 95

Gly Val Ala Pro Gly Pro Ala Gly Arg Pro Ser Ala Pro Ala Ala Gln
 100 105 110

Trp Arg Pro Pro Pro Gly Arg Pro Gly Ala Arg Cys Gly Pro Gly Pro
 115 120 125

Arg Cys Gly Pro Pro Leu Arg Pro Ala His Pro Ser Pro Ala Leu Ile
 130 135 140

Pro Pro Leu Arg Leu Pro Cys Leu Thr Ala Pro Ile Ser Pro Pro Pro
145 150 155 160

Arg Cys Trp Ala Ser Lys Pro Pro Ser Asn Ala Pro Gly Arg Ile Cys
165 170 175

Ala Ser Ser Ala Pro
180

<210> 514

<211> 127

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 44360 right: 44740 frame: 3 size(aa): 127

<400> 514

Asn Gly Gly Ser Gln Ala Trp Glu Ala Glu Arg Trp Asp Glu Ser Arg
1 5 10 15

Arg Arg Met Arg Arg Ala Gln Arg Arg Ala Ala Arg Pro Gly Ala
20 25 30

Ala Ala Gly Pro Gly Thr Pro Gly Arg Trp Pro Pro Leu Gly Gly Trp
35 40 45

Gly Ala Gly Pro Ser Gly Arg Pro Arg Gly His Ser Gly Gly Ala Gly
50 55 60

Gly Ala Ser Glu Pro Leu Gln Val Asp Met Ala Val Ala Gly Gly Ser
65 70 75 80

Gln Pro Arg Gly Ala Pro Pro Gln Asp Gly Pro Val Ile Arg Lys Pro
85 90 95

Thr Gly Ala Pro Arg His Asp Gly Thr Gly Met Lys Pro Thr Gly Ala
100 105 110

Pro Arg Gln Gly Pro Pro Glu Gly Val Pro Pro Arg Gly Gly Ser
115 120 125

<210> 515

<211> 227

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 44374 right: 45054 frame: -2 size(aa): 227

<400> 515

Thr Thr Pro Pro Arg Pro Gly Pro Lys Pro Arg Ala Ala His Ala Leu
1 5 10 15

Arg Leu Leu Gly Asp Arg Gly Arg Pro Pro Arg Arg Arg Pro Leu His

20 25 30
 Pro Gly Ala Asp Pro Pro Asp Arg Arg Pro Pro Pro Gly Asp Leu Arg
 35 40 45
 Arg His Thr Gly Gly Arg Met Arg Leu Leu Leu Leu Leu Leu Ala Leu
 50 55 60
 Val Pro Ala Ala Ala Trp Ala Asp Ala Pro Pro Asp Gly Phe Ile Pro
 65 70 75 80
 Asp Pro Gly Arg Pro Gly Trp Arg Gly Gln Arg Pro Asp Ser Pro Ala
 85 90 95
 Val Trp Gln Thr Pro Pro Arg Ala Tyr Asp Pro Pro Leu Gly Gly Thr
 100 105 110
 Pro Ser Gly Gly Pro Trp Arg Gly Ala Pro Val Gly Phe Ile Pro Val
 115 120 125
 Pro Ser Trp Arg Gly Ala Pro Val Gly Phe Arg Met Thr Gly Pro Ser
 130 135 140
 Trp Gly Gly Ala Pro Arg Gly Trp Leu Pro Pro Ala Thr Ala Met Ser
 145 150 155 160
 Thr Trp Arg Gly Ser Asp Ala Pro Pro Ala Pro Pro Glu Trp Pro Leu
 165 170 175
 Gly Leu Pro Asp Gly Pro Ala Pro Gln Pro Pro Asn Gly Gly His Leu
 180 185 190
 Pro Gly Val Pro Gly Pro Ala Ala Ala Pro Gly Leu Ala Ala Ala Leu
 195 200 205
 Leu Cys Ala Arg Arg Ile Arg Arg Arg Leu Ser Ser His Arg Ser Ala
 210 215 220

Ser His Ala
225

<210> 516

<211> 171

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 44401 right: 44913 frame: 2 size(aa): 171

<400> 516

Glu Pro Ala Thr Asp Ala Pro Gly Ala Glu Glu Gly Arg Ser Glu Ala
 1 5 10 15
 Arg Gly Arg Ser Gly Pro Arg Asp Ala Arg Glu Val Ala Ser Ile Gly
 20 25 30
 Arg Leu Gly Arg Trp Ala Val Arg Gln Ala Gln Gly Pro Leu Arg Gly
 35 40 45

Arg Arg Gly Arg Ile Gly Ala Pro Pro Gly Gly His Gly Arg Gly Arg
 50 55 60
 Gly Gln Pro Ala Pro Gly Gly Thr Ala Pro Gly Arg Ala Gly His Pro
 65 70 75 80
 Glu Ala Asp Arg Gly Pro Ala Pro Arg Arg His Arg Asp Glu Ala Asp
 85 90 95
 Arg Gly Pro Ala Pro Gly Ala Pro Gly Gly Gly Ala Ala Glu Gly Arg
 100 105 110
 Val Val Gly Pro Gly Arg Gly Leu Pro Asp Arg Arg Ala Val Gly Pro
 115 120 125
 Leu Pro Thr Pro Ala Gly Ala Pro Arg Val Gly Asp Glu Ala Val Arg
 130 135 140
 Trp Gly Val Gly Pro Gly Arg Ser Arg His Gln Gly Gln Gln Glu Gln
 145 150 155 160
 Gln Glu Pro His Ala Ala Ser Cys Met Ala Ala
 165 170

<210> 517

<211> 84

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 44637 right: 44888 frame: -1 size(aa): 84

<400> 517

Gly Ser Cys Cys Ser Cys Trp Pro Trp Cys Arg Leu Arg Pro Gly Pro
 1 5 10 15
 Thr Pro His Leu Thr Ala Ser Ser Pro Thr Arg Gly Ala Pro Ala Gly
 20 25 30
 Val Gly Ser Gly Pro Thr Ala Arg Arg Ser Gly Arg Pro Arg Pro Gly
 35 40 45
 Pro Thr Thr Arg Pro Ser Ala Ala Pro Pro Pro Gly Ala Pro Gly Ala
 50 55 60
 Gly Pro Arg Ser Ala Ser Ser Arg Cys Arg Arg Gly Ala Gly Pro Arg
 65 70 75 80
 Ser Ala Ser Gly

<210> 518

<211> 168

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 44744 right: 45247 frame: 3 size(aa): 168

<400> 518

Ala Leu Gly Gly Val Cys Gln Thr Ala Gly Leu Ser Gly Arg Cys Pro
1 5 10 15

Arg Gln Pro Gly Arg Pro Gly Ser Gly Met Lys Pro Ser Gly Gly Ala
20 25 30

Ser Ala Gln Ala Ala Ala Gly Thr Arg Ala Ser Arg Ser Ser Arg Ser
35 40 45

Leu Met Arg Pro Pro Val Trp Arg Arg Arg Ser Pro Gly Gly Gly Arg
50 55 60

Arg Ser Gly Gly Ser Ala Pro Gly Cys Arg Gly Arg Arg Arg Gly Gly
65 70 75 80

Arg Pro Arg Ser Pro Ser Arg Arg Arg Ala Cys Ala Ala Arg Gly Phe
85 90 95

Gly Pro Gly Arg Gly Gly Val Val His Trp Gly Thr Pro Trp Val Glu
100 105 110

Val Gly Ser Gln Pro Pro Cys Pro Ser Thr Arg Ser Thr Arg Arg Cys
115 120 125

Pro Asp Arg Ala Cys Gly Trp Arg Gly Ser Pro Ser Ser Cys Ala Gly
130 135 140

His Leu Ile Ile Asn Asn Gln Ser Ile Trp Glu Asp Lys Ser Ile Phe
145 150 155 160

Gly Phe Ser Pro Cys Asn Pro Val
165

<210> 519

<211> 120

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 44823 right: 45182 frame: 1 size(aa): 120

<400> 519

Ser Arg Gln Val Gly Arg Arg Pro Arg Pro Gln Pro Ala Pro Gly Pro
1 5 10 15

Ala Gly Ala Ala Gly Ala Ser Cys Gly Leu Leu Tyr Gly Gly Val Asp
20 25 30

Leu Pro Glu Ala Val Ala Gly Leu Ala Asp Leu Leu Arg Gly Ala Gly
35 40 45

Asp Asp Val Glu Ala Asp Gly Pro Gly Leu Arg Ala Asp Val Gly His

50

55

60

Val Arg Leu Glu Ala Ser Gly Arg Val Glu Gly Ala Ser Phe Thr Gly
65 70 75 80

Ala Pro Pro Gly Ser Arg Trp Ala Pro Ser Arg Arg Ala Pro Ala Pro
85 90 95

Asp Pro Pro Gly Asp Ala Gln Ile Glu Leu Ala Ala Gly Glu Asp Leu
100 105 110

Leu Pro Leu Val Leu Ala Thr Ser
115 120

<210> 520

<211> 128

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 44831 right: 45214 frame: -3 size(aa): 128

<400> 520

Phe Val Phe Pro Asn Gly Leu Val Val Asn Tyr Glu Val Ala Ser Thr
1 5 10 15

Arg Gly Arg Arg Ser Ser Pro Ala Ala Ser Ser Ile Trp Ala Ser Pro
20 25 30

Gly Gly Ser Gly Ala Gly Ala Arg Arg Leu Gly Ala His Leu Asp Pro
35 40 45

Gly Gly Ala Pro Val Asn Asp Ala Pro Ser Thr Arg Pro Glu Ala Ser
50 55 60

Ser Arg Thr Cys Pro Thr Ser Ala Arg Arg Pro Gly Pro Ser Ala Ser
65 70 75 80

Thr Ser Ser Pro Ala Pro Arg Ser Arg Ser Ala Arg Pro Ala Thr Ala
85 90 95

Ser Gly Arg Ser Thr Pro Pro Tyr Arg Arg Pro His Glu Ala Pro Ala
100 105 110

Ala Pro Ala Gly Pro Gly Ala Gly Cys Gly Leu Gly Arg Arg Pro Thr
115 120 125

<210> 521

<211> 96

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 44892 right: 45179 frame: -1 size(aa): 96

<400> 521

Gly Gly Gln His Lys Arg Lys Glu Ile Leu Ala Ser Arg Lys Leu Asp
 1 5 10 15
 Leu Gly Ile Ala Gly Trp Ile Trp Cys Trp Gly Thr Ala Ala Gly Ser
 20 25 30
 Pro Pro Arg Pro Arg Gly Cys Pro Ser Glu Arg Arg Pro Leu Asp Pro
 35 40 45
 Ala Arg Ser Leu Glu Pro His Met Pro Tyr Val Cys Ser Glu Thr Gly
 50 55 60
 Ala Val Arg Leu Asp Val Val Pro Cys Thr Pro Glu Gln Ile Arg Gln
 65 70 75 80
 Thr Gly Asp Arg Leu Arg Glu Ile Tyr Ala Ala Ile Gln Glu Ala Ala
 85 90 95

<210> 522
 <211> 59
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 44892 right: 45179 frame: -1 size(aa): 96

<400> 522

Gly Met Cys Gly Ser Arg Leu Arg Ala Gly Ser Arg Gly Arg Arg Ser
 1 5 10 15
 Leu Gly His Pro Leu Gly Arg Gly Gly Leu Pro Ala Ala Val Pro Gln
 20 25 30
 His Gln Ile His Pro Ala Met Pro Arg Ser Ser Leu Arg Leu Ala Arg
 35 40 45
 Ile Ser Phe Leu Leu Cys Trp Pro Pro His Asn
 50 55

<210> 523
 <211> 63
 <212> PRT
 <213> Cyanophage S-2L
 <220>
 <221> misc_feature
 <223> New ORF = left: 45058 right: 45246 frame: -2 size(aa): 63

<400> 523

Thr Gly Leu Gln Gly Glu Asn Pro Lys Ile Asp Leu Ser Ser Gln Met
 1 5 10 15
 Asp Trp Leu Leu Ile Met Arg Trp Pro Ala Gln Glu Glu Gly Asp Pro
 20 25 30

Arg Gln Pro Gln Ala Arg Ser Gly His Arg Arg Val Asp Leu Val Leu
35 40 45

Gly His Gly Gly Trp Glu Pro Thr Ser Thr Gln Gly Val Pro Gln
50 55 60

<210> 524

<211> 79

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 45189 right: 45425 frame: -1 size(aa): 79

<400> 524

Asn Tyr Leu Phe Phe Val Lys Val Gly Leu Val Asn Pro Glu Lys Pro
1 5 10 15

Leu Pro Ser Leu Gly Arg Pro Leu Ala Glu Gln Phe Val Ile Leu Phe
20 25 30

Pro Ile Leu Gly Asn Leu Lys Leu Tyr His Ser Phe Leu Glu Thr Phe
35 40 45

Arg Leu Leu Lys Lys Gly Val Tyr Ser Gly Val Lys Arg Asp Tyr Lys
50 55 60

Val Lys Thr Arg Lys Leu Ile Cys Leu Pro Lys Trp Ile Gly Cys
65 70 75

<210> 525

<211> 60

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 45241 right: 45420 frame: 2 size(aa): 60

<400> 525

Ser Arg Leu Thr Pro Glu Tyr Thr Pro Phe Phe Asn Ser Leu Lys Val
1 5 10 15

Ser Lys Lys Glu Trp Tyr Asn Phe Lys Leu Pro Arg Ile Gly Asn Lys
20 25 30

Ile Thr Asn Cys Ser Ala Lys Gly Leu Pro Ser Glu Gly Ser Gly Phe
35 40 45

Ser Gly Leu Thr Asn Pro Thr Leu Thr Lys Asn Lys
50 55 60

<210> 526

<211> 52

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 45250 right: 45405 frame: -2 size(aa): 52

<400> 526

Gly Trp Val Gly Gln Pro Gly Lys Thr Ala Thr Leu Ala Trp Lys Ala
1 5 10 15

Leu Ser Gly Ala Ile Cys Asn Phe Ile Ser Asn Ser Trp Gln Phe Lys
20 25 30

Val Val Pro Phe Leu Leu Gly Asp Phe Gln Ala Ile Glu Lys Gly Gly
35 40 45

Val Leu Trp Ser
50

<210> 527

<211> 70

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc_feature

<223> New ORF = left: 45356 right: 45565 frame: -3 size(aa): 70

<400> 527

Lys Lys Glu Val Gly Phe Lys Gly Lys Val Glu Val Gly Phe Asn Glu
1 5 10 15

Gly Asn Tyr Lys Lys Lys Gly Ile Tyr Arg Val Leu Asn Glu Cys Gln
20 25 30

Glu Ile Glu Gly Ser Val Met Ser Phe Phe Arg Phe Gly Phe Lys Ile
35 40 45

Ile Cys Phe Leu Leu Arg Leu Gly Trp Ser Thr Arg Lys Asn Arg Tyr
50 55 60

Pro Arg Leu Glu Gly Pro
65 70

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